3 to 5

Teacher's Manual

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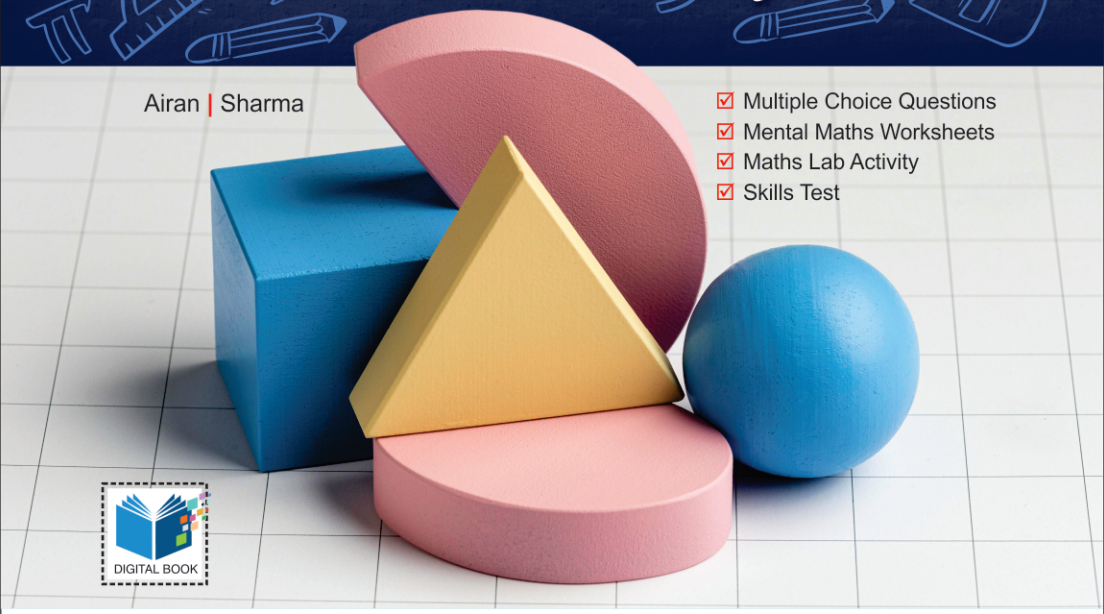
Book-3 ...02
Book-4 ...49
Book-5 ...114

FLYING BOOKS

MATHS Today

Airan | Sharma

- ☑ Multiple Choice Questions
- ☑ Mental Maths Worksheets
- ☑ Maths Lab Activity
- ☑ Skills Test



DIGITAL BOOK

Maths Mind
Part - III

1. Patterns

Picture Patterns

Exercise 1.1

Crate Patterns of your own :

(a) Use any 3 geometrical shapes.



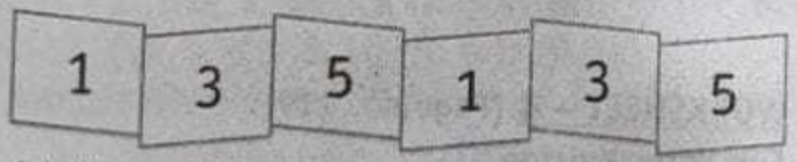
(b) Use any 3 fruits :



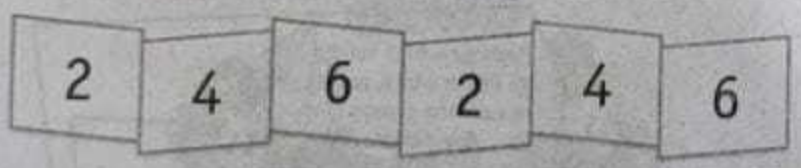
(c) Use any 3 objects seen in the sky.



(d) Use any 3 odd number.



(e) Use any 3 even number.



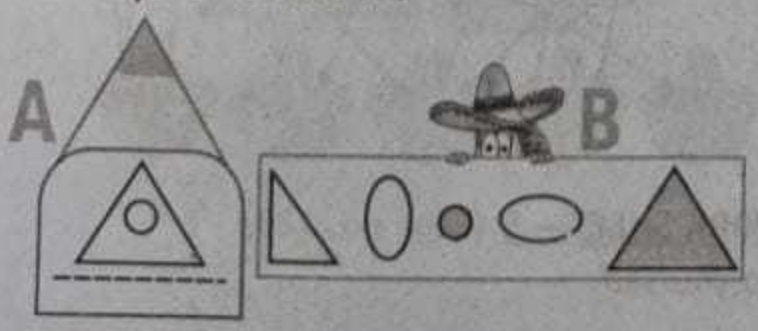
Exercise 1.2

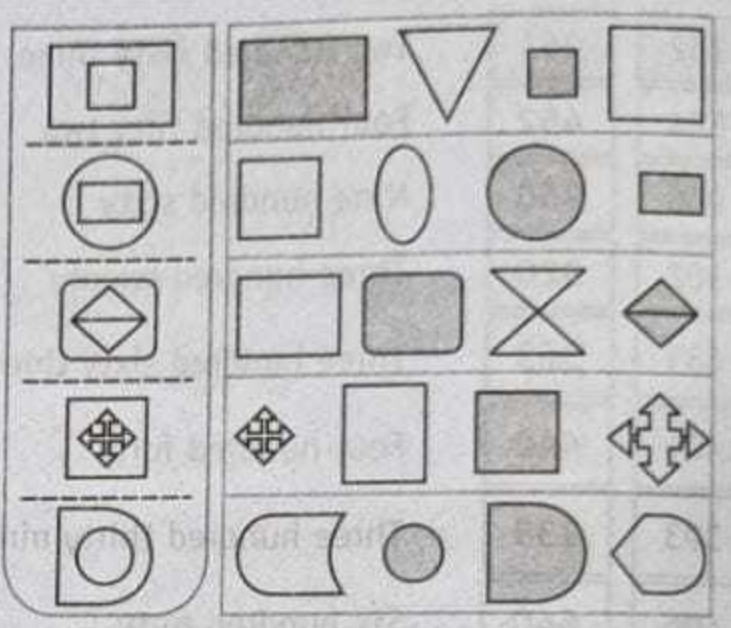
Colour the rectangles to complete the pattern :

(a) and **(b)** Do yourself.

Exercise 1.3

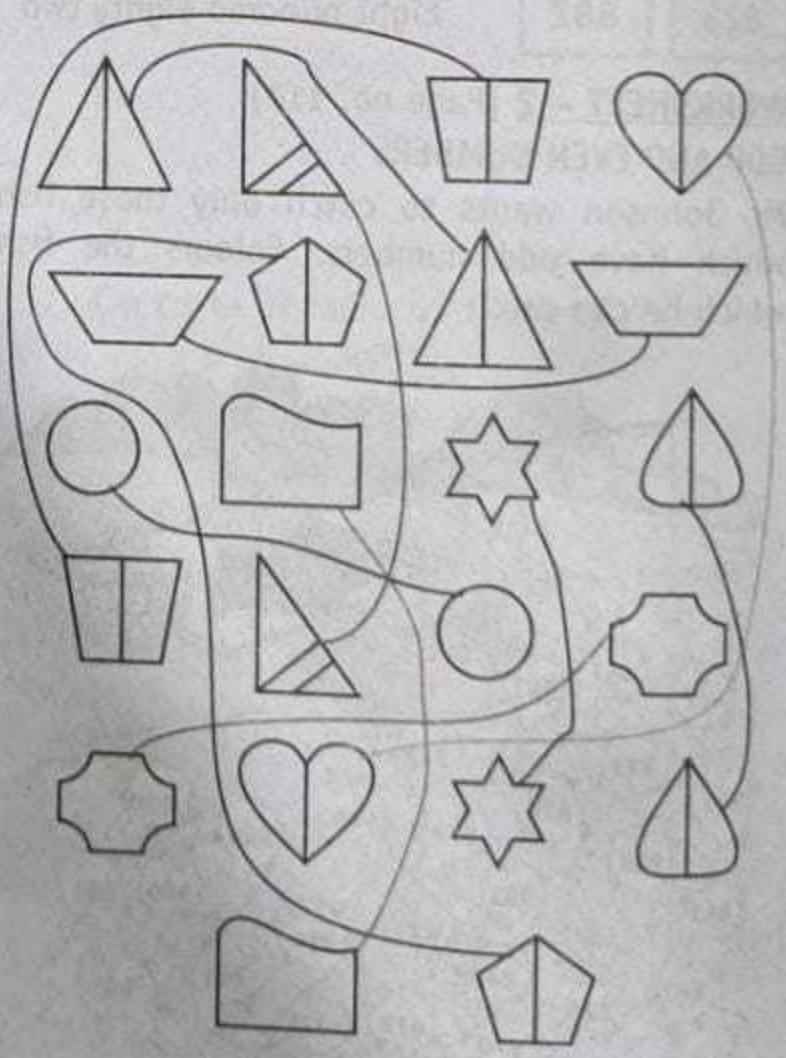
Colour the two shapes in column B that form the shape in column A :





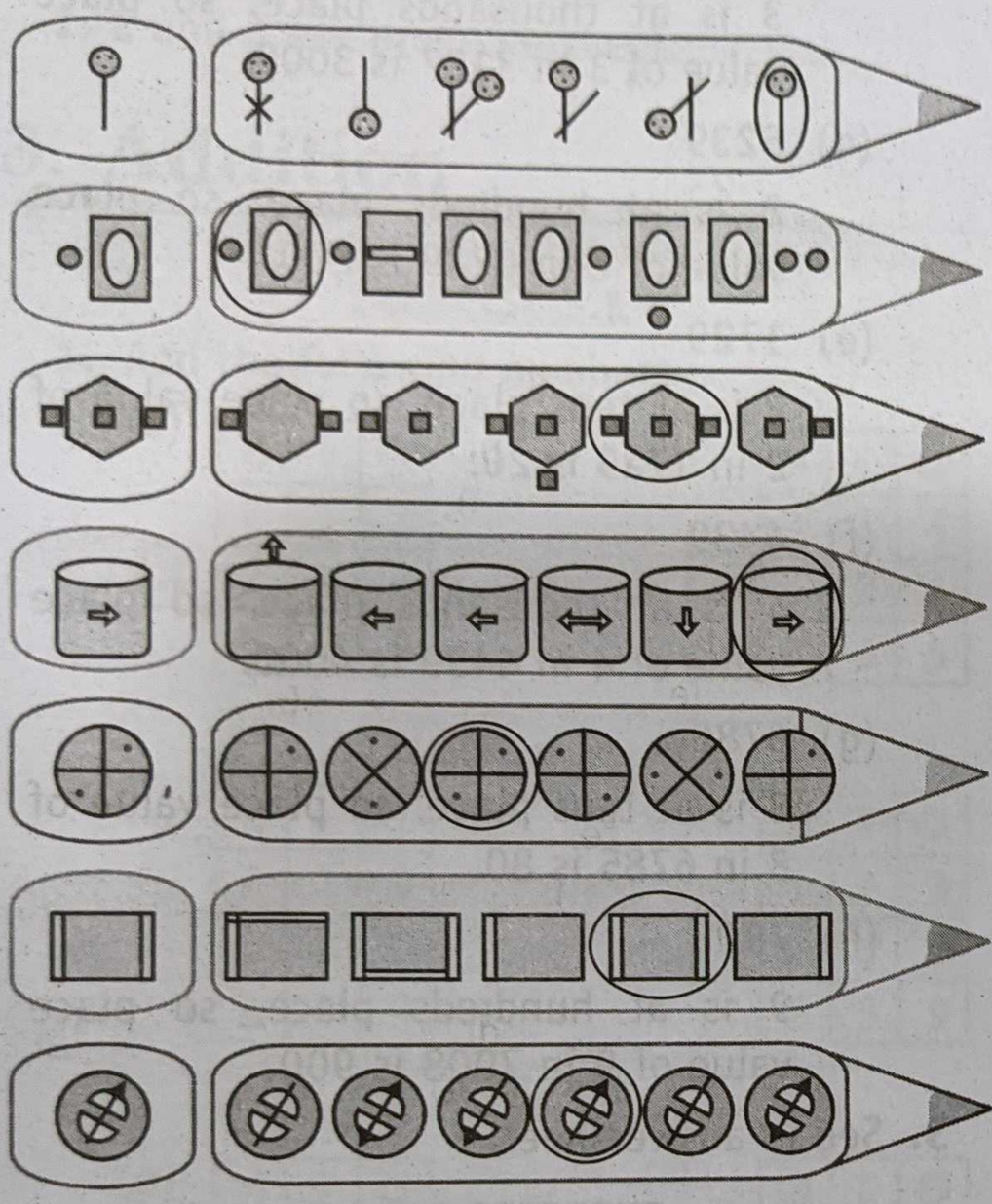
Exercise 1.4

Identify the same shapes and colour them alike :



Exercise 1.5

Circle the shape on the right hand side which is similar to the shape on the left hand side. One has been done for you :



Number Patterns

Exercise 1.6

See in answersheet.

Exercise 1.7

See in answersheet.

Exercise 1.8

See in answersheet.

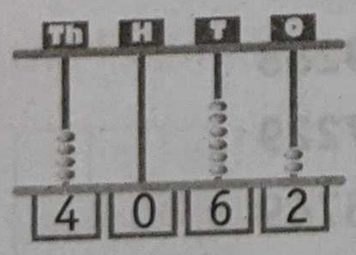
Mental Math

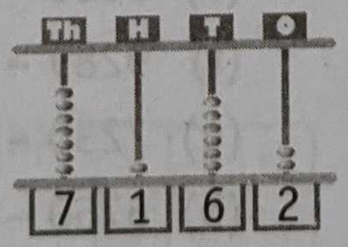
1. Face-value is the actual value of the digit in any number. It does not recognize by the position.
   So, the face value of **2** in 624 = **2**
2. 391 = 300 + **90** + 1
   So, 90 is the missing number.
3. 209 minus 15 plus 10.
   209 minus 15 = 209 – 15 = 194
   194 plus 10 = 194 + 10 = 204
   So, 209 minus 15 plus 10 = 204
4. Descending order of 0, 3, 4 is 4, 3, 0
   So, the largest number made by digits 0, 3 and 4 = 430
5. Two times 34 = 34 × 2 = 68
   And 68 minus 20 = 68 – 20 = 48

2. Numbers and Numeration

EXERCISE 2.1

1. See in answersheet.
2. Represent the following numbers on the abacus :

(a) 

(b) 

(c) 

(d) 

3 and **4** see in answersheet.

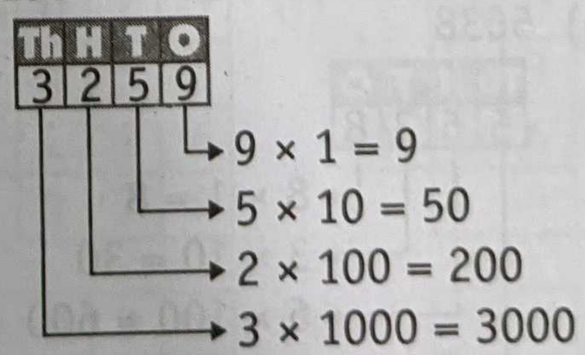
EXERCISE 2.2

1, **2** and **3** see in answersheet.

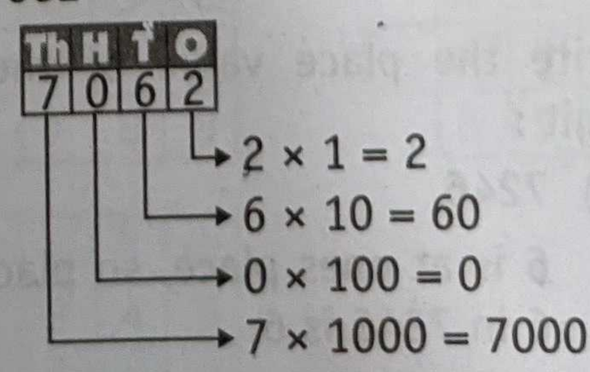
EXERCISE 2.3

1. Write the place value of each digit in following numerals :

(a) 3259



(b) 7062



(c) 9138

Th	H	T	O
9	1	3	8

8 × 1 = 8
3 × 10 = 30
1 × 100 = 100
9 × 1000 = 9000

(d) 6742

Th	H	T	O
6	7	4	2

2 × 1 = 2
4 × 10 = 40
7 × 100 = 700
6 × 1000 = 6000

(e) 4092

Th	H	T	O
4	0	9	2

2 × 1 = 2
9 × 10 = 90
0 × 100 = 0
4 × 1000 = 4000

(f) 3689

Th	H	T	O
3	6	8	9

9 × 1 = 9
8 × 10 = 80
6 × 100 = 600
3 × 1000 = 3000

(g) 9734

Th	H	T	O
9	7	3	4

4 × 1 = 4
3 × 10 = 30
7 × 100 = 700
9 × 1000 = 9000

(h) 5638

Th	H	T	O
5	6	3	8

8 × 1 = 8
3 × 10 = 30
6 × 100 = 600
5 × 1000 = 5000

2. Write the place value of the coloured digit :

(a) 724**6**

6 is at ones place, so place value of 6 in 7246 is 6.

(b) 91**0**6

0 has 0 place value at any place so, place-value of 0 in 9106 is 0.

(c) **3**187

3 is at thousands place, so place value of 3 in 3187 is 3000.

(d) 62**3**9

2 is at hundreds place, so place value of 2 in 6239 is 200.

(e) 17**2**9

2 is at tens place, so place value of 2 in 1729 is 20.

(f) **4**439

4 is at thousands place, so place value of 4 in 4439 is 4000.

(g) 67**8**5

8 is at tens place, so place value of 8 in 6785 is 80.

(h) 7**9**08

9 is at hundreds place, so place value of 9 in 7908 is 900.

3. See in answersheet.

EXERCISE 2.4

1. Write the predecessor of the following numbers :

(a) 3079 – 1 = **3078**

(b) 4162 – 1 = **4161**

(c) 3167 – 1 = **3166**

(d) 4060 – 1 = **4059**

(e) 5680 – 1 = **5679**

(f) 9289 – 1 = **9288**

(g) 7230 – 1 = **7229**

(h) 6750 – 1 = **6749**

2. Write the successor of the following numbers :

(a) 4299 + 1 = **4300**

(b) 6285 + 1 = **6286**

(c) 6372 + 1 = **6373**

(d) 3796 + 1 = **3797**

(e) 9146 + 1 = **9147**

(f) 5129 + 1 = **5130**

(g) 8139 + 1 = **8140**

(h) 8394 + 1 = **8395**

EXERCISE 2.5

1, **2** and **3** see in answersheet.

EXERCISE 2.6

1, **2** and **3** see in answersheet.

3. Addition

EXERCISE 3.1

1. Add the following numbers :

(a)

	H	T	O
	2	1	3
+	3	2	6
	5	3	9

(b)

	H	T	O
	3	1	4
+	5	2	1
	8	3	5

(c)

	H	T	O
	7	1	9
+	1	8	0
	8	9	9

(d)

	H	T	O
	6	2	3
+	2	1	6
	8	3	9

(e)

	H	T	O
	6	6	1
+	2	0	3
	8	6	4

(f)

	H	T	O
	7	1	2
+	2	8	1
	9	9	3

(g)

	H	T	O
	3	2	8
+	1	6	1
	4	8	9

(h)

	H	T	O
	5	2	2
+	3	4	6
	8	6	8

2. Add the following numbers :

(a)

	H	T	O
	4	2	3
	1	6	1
+	2	1	5
	7	9	9

(b)

	H	T	O
	3	2	6
	1	5	1
+	3	1	0
	7	8	7

(c)

	H	T	O
	6	2	8
	1	3	1
+	2	4	0
	9	9	9

(d)

	H	T	O
	2	4	5
	1	2	1
+	5	1	3
	8	7	9

(e)

	H	T	O
	2	1	6
	3	7	1
+	1	1	2
	6	9	9

(f)

	H	T	O
	3	4	5
	2	1	3
+	3	0	1
	8	5	9

(g)

	H	T	O
	6	2	5
	1	3	1
+	2	4	2
	9	9	8

(h)

	H	T	O
	3	4	3
	1	3	2
+	2	1	4
	6	8	9

3. Add the following numbers :

(a)

	Th	H	T	O
	2	1	6	2
+	3	2	1	4
	5	3	7	6

(b)

	Th	H	T	O
	5	4	1	2
+	2	3	7	1
	7	7	8	3

(c)

	Th	H	T	O
	7	9	8	2
+	2	0	1	6
	9	9	9	8

(d)

	Th	H	T	O
	1	4	5	2
+	2	1	2	3
	3	5	7	5

(e)

	Th	H	T	O
	1	4	5	2
+	2	1	2	6
	3	5	7	8

(f)

	Th	H	T	O
	8	3	3	4
+	1	6	1	2
	9	9	4	6

(g)

	Th	H	T	O
	6	4	3	2
+	2	3	5	6
	8	7	8	8

(h)

	Th	H	T	O
	1	6	7	1
+	7	3	2	8
	8	9	9	9

(i)

	Th	H	T	O
	4	3	4	5
+	2	1	5	2
	6	4	9	7

4. Add the following numbers :

(a)

	Th	H	T	O
	5	0	2	1
	2	6	1	8
+	1	1	6	0
	8	7	9	9

(b)

	Th	H	T	O
	4	2	3	4
	2	1	6	1
+	3	6	0	4
	9	9	9	9

(c)

	Th	H	T	O
	7	2	1	6
	1	2	3	1
+	1	5	5	2
	9	9	9	9

(d)

	Th	H	T	O
	2	3	1	5
	3	6	7	1
+	4	0	1	3
	9	9	9	9

(e)

	Th	H	T	O
	7	1	4	4
	1	5	2	1
+	1	2	2	3
	9	8	8	8

(f)

	Th	H	T	O
	2	3	1	6
	1	2	5	2
+	4	2	2	0
	7	7	8	8

(g)

	Th	H	T	O
	3	1	2	6
	2	2	1	2
+	3	5	1	0
	8	8	4	8

(h)

	Th	H	T	O
	4	2	6	2
	2	3	1	6
+	2	3	0	1
	8	8	7	9

(i)

	Th	H	T	O
	5	2	3	6
	2	3	2	1
+	2	4	3	2
	9	9	8	9

EXERCISE 3.2

1. Add the following numbers :

(a)

	Th	H	T	O
		①	①	
	7	2	3	4
+	1	2	9	6
	8	5	3	0

(b)

	Th	H	T	O
	①	①	①	
	3	7	8	4
+	1	2	6	9
	5	0	5	3

(c)

	Th	H	T	O
	①	①	①	
	4	5	6	4
+	3	8	5	6
	8	4	2	0

(d)

	Th	H	T	O
	①	①		
	4	5	8	3
+	1	6	8	4
	6	2	6	7

(e)

	Th	H	T	O
	①	①	①	
	9	1	7	6
+	2	8	3	7
	1	2	0	1	3

(f)

	Th	H	T	O
	①	①	①	
	4	5	3	8
+	1	6	7	8
	6	2	1	6

(g)

	Th	H	T	O
	①	①	①	
	3	4	8	2
+	4	9	6	8
	8	4	5	0

(h)

	Th	H	T	O
	①	①	①	
	4	5	6	7
+	2	8	9	6
	7	4	6	3

(i)

	Th	H	T	O
	①	①	①	
	1	9	6	7
+	4	8	4	6
	6	8	1	3

2. Add the following numbers :

(a)

	Th	H	T	O
	①	①	①	
	7	3	2	5
	1	6	3	9
+	7	2	8	5
	1	6	2	4	9

(b)

	Th	H	T	O
	①	②	①	
	3	7	9	6
	1	0	6	4
+	1	2	8	3
	6	1	4	3

(c)

	Th	H	T	O
	①	②	①	
	7	6	9	4
	2	1	6	8
+	3	2	4	5
	1	3	1	0	7

(d)

	Th	H	T	O
		①	①	
	2	3	6	9
	1	2	8	4
+	6	3	2	5
	9	9	7	8

(e)

	Th	H	T	O
	①	①	①	
	7	9	4	5
	1	2	8	3
+	1	2	5	6
	1	0	4	8	4

(f)

	Th	H	T	O
		①	①	
	8	4	5	1
	1	2	3	6
+	2	1	8	6
	1	1	8	7	3

(g)

	Th	H	T	O
	①	①	①	
	7	2	8	6
	1	2	4	9
+	4	6	1	3
	1	3	1	4	8

(h)

	Th	H	T	O
		②	①	
	3	1	9	6
	2	1	8	6
+	4	3	8	1
	9	7	6	3

(i)

	Th	H	T	O
	①	①	①	
	9	1	2	6
	2	8	1	2
+	2	4	6	5
1	4	4	0	3

EXERCISE 3.3

1.

Number of English books = 2896
Number of Hindi books = 2946
Number of mathematics books = + 1816
Total number of books = 7658

	Th	H	T	O
	②	①	①	
	2	8	9	6
	2	9	4	6
+	1	8	1	6
	7	6	5	8

2.

One village in people = 5186
Other village in people = + 6948
Total people = 12134

	Th	H	T	O
	①	①	①	
	5	1	8	6
+	6	9	4	8
1	2	1	3	4

3.

Number of men = 3286
Number of women = 2978
Number of Children = + 7628
Total population = 13892

	Th	H	T	O
	①	①	②	
	3	2	8	6
	2	9	7	8
+	7	6	2	8
1	3	8	9	2

4.

A microwave bought = ₹7990
A television bought = + ₹9350
Total money spend = ₹17340

	Th	H	T	O
		①	①	
₹	7	9	9	0
+₹	9	3	5	0
₹	17	3	4	0

5.

CFLs in first week = 3786
CFLs in second week = + 4128
Total CFLs were produced = 7914

	Th	H	T	O
		①	①	
	3	7	8	6
+	4	1	2	8
	7	9	1	4

6.

Number of mango trees = 3218
Number of apple trees = + 2896
Total trees = 6114

	Th	H	T	O
	①	①	①	
	3	2	1	8
+	2	8	9	6
	6	1	1	4

7.

One candidate receive votes = 2196
Second candidate receive votes = 3845
Third candidate receive votes = + 2945
8986

	Th	H	T	O
	①	①	①	
	2	1	9	6
	3	8	4	5
+	2	9	4	5
	8	9	8	6

8.

Rose plants = 3846
Sunflower plants = 4532
Carnation plants = + 3126
Total plants = 11504

	Th	H	T	O
	①	①	①	
	3	8	4	6
	4	5	3	2
+	3	1	2	6
	1	1	5	0	4

9.

Cars sell in March = 3786
Cars sell in April = 4816
Cars sell in May = + 5106
Total cars sell = 13708

	Th	H	T	O
	①	①	①	
	3	7	8	6
	4	8	1	6
+	5	1	0	6
	1	3	7	0	8

10. (a)

A computer costs = ₹9850
A scanner costs = + ₹3245
Total costs = ₹13095

	Th	H	T	O
		①		
₹	9	8	5	0
+₹	3	2	4	5
₹	13	0	9	5

(b)

A computer costs = ₹9850
A printer costs = ₹2995
A scanner costs = + ₹3245
Total costs = ₹16090

	Th	H	T	O
	②	①	①	
₹	9	8	5	0
₹	2	9	9	5
+₹	3	2	4	5
₹	16	0	9	0

Mental Maths

Copy and complete these magic squares

(a)

6	1	8
7	5	3
2	9	4

(b)

10	6	5
6	7	8
5	8	4

(c)

11	3	10
7	8	9
6	13	5

Comulative Revision - I

1. Write the number name of the following :
   (a) **Three thousand eighty nine.**
   (b) **Eight thousand one hundred nine.**
2. Write the place value of the coloured digit :
   (a) **7 one or 7**
   (b) **7 hundreds or 700**
   (c) **0 has 0 place value**

(d) **4 thousand or 4000**

3. Expand the following :

(a) 4728 = **4000 + 700 + 20 + 8**

(b) 6795 = **6000 + 700 + 90 + 5**

4. (a) **1093, 4672, 7632, 8576**

(b) **6728, 5679, 5163, 2307**

5. Add the following :

(a)

	Th	H	T	O
	4	6	3	2
	1	2	8	9
+	2	6	7	9
	8	**6**	**0**	**0**

(b)

	Th	H	T	O
	3	1	8	6
	1	2	9	6
+	2	3	7	4
	6	**8**	**5**	**6**

(c)

	Th	H	T	O
	3	9	2	6
	1	3	9	4
+	1	2	8	5
	6	**6**	**0**	**5**

6. Tick (✓) the correct option :

(a) (ii); (b) (iii)

4. Subtraction

EXERCISE 4.1

1. Subtract the following numbers :

(a)

	H	T	O
	6	8	4
−	3	2	1
	3	6	3

(b)

	H	T	O
	9	2	8
−	6	2	6
	3	0	2

(c)

	H	T	O
	7	2	4
−	3	1	2
	4	1	2

(d)

	H	T	O
	5	0	9
−	2	0	6
	3	0	3

(e)

	H	T	O
	5	8	6
−	3	1	2
	2	7	4

(f)

	H	T	O
	8	7	6
−	3	2	5
	5	5	1

(g)

	H	T	O
	7	3	4
−	2	1	2
	5	2	2

(h)

	H	T	O
	9	7	8
−	1	6	4
	8	1	4

2. Subtract the following numbers :

(a)

	Th	H	T	O
	7	8	2	9
−	5	2	1	6
	2	6	1	3

(b)

	Th	H	T	O
	7	7	8	8
−	4	5	6	5
	3	2	2	3

(c)

	Th	H	T	O
	5	5	6	9
−	2	3	5	6
	3	2	1	3

(d)

	Th	H	T	O
	8	8	9	4
−	2	6	5	1
	6	2	4	3

(e)

	Th	H	T	O
	3	8	9	8
−	1	6	2	1
	2	2	7	7

(f)

	Th	H	T	O
	9	6	4	3
−	2	1	2	3
	7	5	2	0

(g)

	Th	H	T	O
	7	9	5	6
−	3	2	4	3
	4	7	1	3

(h)

	Th	H	T	O
	9	7	6	4
−	2	6	5	3
	7	1	1	1

(i)

	Th	H	T	O
	9	7	6	4
−	3	6	1	3
	6	1	5	1

3. Subtract the following numbers :

(a)

	Th	H	T	O
	9	8	3	4
−	6	3	3	1
	3	5	0	3

(b)

	Th	H	T	O
	7	8	5	9
−	6	3	2	8
	1	5	3	1

(c)

	Th	H	T	O
	5	4	3	9
−	5	3	2	8
	0	1	1	1

(d)

	Th	H	T	O
	8	5	3	2
−	6	4	1	2
	2	1	2	0

(e)

	Th	H	T	O
	7	6	3	5
−	6	2	0	4
	1	4	3	1

(f)

	Th	H	T	O
	5	6	3	4
−	2	3	1	2
	3	3	2	2

EXERCISE 4.2

1. Subtract the following numbers :

(a)

	H	T	O
	⑤	⑭	
	~~6~~	~~4~~	5
−	2	6	4
	3	8	1

(b)

	H	T	O
	⑦	⑩	⑯
	~~8~~	~~1~~	~~6~~
−	6	2	9
	1	8	7

(c)

	H	T	O
	⑥	⑫	⑯
	~~7~~	^{2}~~3~~	~~6~~
−	2	8	9
	4	4	7

(d)

	H	T	O
	⑥	⑩	⑩
	~~7~~	^{0}~~1~~	~~0~~
−	6	8	9
		2	1

(e)

	H	T	O
	⑦	⑪	
	~~8~~	~~1~~	4
−	4	5	2
	3	6	2

(f)

	H	T	O
	⑤	⑪	⑯
	~~6~~	^{1}~~2~~	~~6~~
−	5	8	9
		3	7

2. Subtract the following numbers :

(a)

	Th	H	T	O
		④	⑪	⑫
	3	~~5~~	^{1}~~2~~	~~2~~
−	1	4	7	8
	2	0	4	4

(b)

	Th	H	T	O
	⑥	⑮	⑩	⑬
	~~7~~	^{5}~~6~~	^{0}~~1~~	~~3~~
−	3	7	3	4
	3	8	7	9

(c)

	Th	H	T	O
	⑤	⑫	⑮	⑪
	~~6~~	^{2}~~3~~	^{5}~~6~~	~~1~~
−	4	3	8	7
	1	9	7	4

(d)

	Th	H	T	O
	④	⑫	⑫	⑫
	~~5~~	^{2}~~3~~	^{2}~~3~~	~~2~~
−	2	4	5	3
	2	8	7	9

(e)

	Th	H	T	O
	⑧	⑰	⑮	⑫
	~~9~~	^{7}~~8~~	^{5}~~6~~	~~2~~
−	3	9	9	6
	5	8	6	6

(f)

	Th	H	T	O
	⑧	③	⑯	⑭
	8	~~4~~	^{6}~~7~~	~~4~~
−	6	1	8	7
	2	2	8	7

(g)

	Th	H	T	O
	⑦	⑤	⑭	⑫
	7	~~6~~	^{4}~~5~~	~~2~~
−	4	5	9	6
	3	0	5	6

(h)

	Th	H	T	O
	⑦	⑬	⑬	
	~~8~~	^{3}~~4~~	~~3~~	9
−	3	7	5	8
	4	6	8	1

(i)

	Th	H	T	O
	③	⑩	⑩	◯
	~~4~~	^{0}~~1~~	~~0~~	6
−	2	8	9	1
	1	2	1	5

Mental Math

1. 53 − 8 =

So, 53 minus 8 is 45.

	④	⑬
	~~5~~	~~3~~
−		8
	4	5

2.

So, 13 minus 4 is 9.

	1	3
−		4
		9

3. Four taken away from 17

= 17 − 4 = 13

So, four taken away from 17 gives 13.

4. 7 taken away from 11 = 11 − 7 = 4

4 taken away from 8 = 8 − 4 = 4

difference between = 4 − 4 = **0**

5. 28 is taken away from 59 = 59 − 28 = 31

So, 28 is taken away from 59 gives **31**.

3. Subtract the following numbers :

(a)

	Th	H	T	O
	⑧	⑫	②	⑮
	~~9~~	~~2~~	~~3~~	~~5~~
−	4	6	2	8
	4	6	0	7

(b)

	Th	H	T	O
		⑧	⑮	⑩
	5	~~9~~	^{5}~~6~~	~~0~~
−	3	8	9	4
	2	0	6	6

(c)

	Th	H	T	O
	②	⑯	⑨	⑩
	~~3~~	^{6}~~7~~	~~0~~	~~0~~
−	1	8	6	2
	1	8	3	8

(d)

	Th	H	T	O
	③	⑭	⑩	
	~~4~~	^{4}~~5~~	~~0~~	~~6~~
−	2	8	9	2
	1	6	1	4

(e)

	Th	H	T	O
	⑥	⑮	⑨	⑬
	~~7~~	^{5}~~6~~	~~0~~	~~3~~
−	4	8	1	6
	2	7	8	7

(f)

	Th	H	T	O
	③	⑦	⑭	
	3	~~8~~	~~4~~	6
−	2	4	9	3
	1	3	5	3

(g)

	Th	H	T	O
	⑥	⑨	⑨	⑯
	~~7~~	~~0~~	~~0~~	~~6~~
−	4	8	1	9
	2	1	8	7

(h)

	Th	H	T	O
	②	⑬	⑨	⑯
	~~3~~	^{3}~~4~~	~~0~~	~~6~~
−	1	8	0	9
	1	5	9	7

(i)

	Th	H	T	O
	④	⑭	⑨	⑩
	~~5~~	~~0~~	~~0~~	~~0~~
−	4	~~3~~	9	6
		1	0	4

(j)

	Th	H	T	O
	②	⑪	⑩	
	~~3~~	~~12~~	~~0~~	6
−	1	8	9	6
	1	3	1	0

(k)

	Th	H	T	O
	⑥	⑮	⑬	
	~~7~~	~~6~~	~~3~~	2
−	2	8	9	1
	4	7	4	1

(l)

	Th	H	T	O
			④	⑫
	6	4	~~5~~	~~2~~
−	3	2	1	6
	3	2	3	6

(m)

	T-Th	Th	H	T	O
		④	⑬	⑦	⑪
	7	~~5~~	~~3~~	~~8~~	~~1~~
−	5	2	8	1	9
	2	2	5	6	2

(n)

	T-Th	Th	H	T	O
		⑤	⑭	④	⑫
	8	~~6~~	~~4~~	~~5~~	~~2~~
−	3	2	8	3	4
	5	3	6	1	8

(o)

	T-Th	Th	H	T	O
			②	⑩	
	9	7	~~3~~	~~0~~	6
−	4	5	2	8	1
	5	2	0	2	5

EXERCISE 4.3

1. A toy car costs = ₹ 800
A gun costs = ₹ 699
So, Toy car more costly than the gun
= ₹ 800 − ₹ 699
= ₹ 101

	⑦	⑨	⑩
	8	~~0~~	~~0~~
−	6	9	9
	1	0	1

2. Dinesh buy a refrigerator = ₹ 9850
He has only money = ₹ 7970
So, Total money he needs to buy refrigerator
= ₹ 9850 − ₹ 7970
= ₹ 1880

	⑧	⑰	⑮	
	~~9~~	~~8~~	~~5~~	0
−	7	9	7	0
	1	8	8	0

3. A cycle price = ₹ 5680
A battery car = ₹ 7950
So, More costly car is
= ₹ 7950 − ₹ 5680
= ₹ 2270

	⑦	⑧	⑮	
	7	~~9~~	~~5~~	0
−	5	6	8	0
	2	2	7	0

4. Tarun's father earn
= ₹ 32500
Tarun earn = ₹ 6850
So, difference in earns
= ₹ 32500 − ₹ 6850 = ₹ 25650

	⑦	⑨	⑩	
	8	~~0~~	~~0~~	0
−	6	5	8	0
	1	4	2	0

5. Number of apples
= 8000
Number of apples sold
= 6580
So, number of remaining apples
= 8000 − 6580 = 1420

	③	⑭	⑯	
	4	~~5~~	~~6~~	0
−	3	8	9	0
	0	6	7	0

6. Meena has stamps
= 4560
Renu has stamps
= 3890
Difference in stamps
= 4560 − 3890 = 670

		⑤	⑫	⑩
	4	~~6~~	~~3~~	~~0~~
−		3	8	9
	4	2	4	1

7. Reeta had marbles = 4630
She lost marbles = 389
So, number of remaining marbles
= 4630 − 389 = 4241

	⑤	⑯			
	~~6~~	~~6~~	7	8	2
−	2	7	0	0	0
	3	9	7	8	2

8. Required number
= 66782 − 27000
= 39782

		⑤	⑪	⑮	
	2	~~6~~	~~2~~	~~5~~	0
−	1	4	5	9	0
	1	1	6	6	0

9. Required number
= 26250 − 14590
= 11660

		⑤	⑬		
	9	~~6~~	~~3~~	8	4
−	5	5	9	6	4
	4	0	4	2	0

10. Required number
= 96384 − 55964
= 40420
So, 40420 number should be subtracted from 96384 to get 55964.

EXERCISE 4.4

1. Simplify the following :
(a) 7268 − 3124 − 5196 + 2463
First we add the number having same signs.

	②	⑪	⑭	⑩	
	~~3~~	~~2~~	~~5~~	0	0
−	6	8	5	0	
	2	5	6	5	0

	Th	H	T	O
		①	①	
	7	2	6	8
+	2	4	6	3
	9	7	3	1

	Th	H	T	O
		①	①	
	3	1	2	4
+	5	1	9	6
	8	3	2	0

Now, subtract 9731 from 8320.

	Th	H	T	O
	9	7	3	1
–	8	3	2	0
	1	4	1	1

So, simplified form is 1411.

(b) 4569 – 1328 – 4162 + 2896

First we add the number having same signs.

	Th	H	T	O
	①	①	①	
	4	5	6	9
+	2	8	9	6
	7	4	6	5

	Th	H	T	O
			①	
	1	3	2	8
+	4	1	6	2
	5	4	9	0

Now, subtract 7465 from 5490.

	Th	H	T	O
	⑥	⑬	⑯	
	~~7~~	~~4~~	~~6~~	5
–	5	4	9	0
	1	9	7	5

So, simplified form is 1975.

(c) 4672 – 3858 – 418 + 5096

First we add the number having same signs.

	Th	H	T	O
		①		
	4	6	7	2
+	5	0	9	6
	9	7	6	8

	Th	H	T	O
	①		①	
	3	8	5	8
+		4	1	8
	4	2	7	6

Now, subtract 9768 from 4276.

	Th	H	T	O
	⑥	⑬	⑯	
	~~9~~	~~7~~	~~6~~	8
–	4	2	7	6
	5	4	9	2

So, simplified form is 5492.

(d) 1469 + 2186 – 3196 + 576

First we add the number having same signs.

	Th	H	T	O
	①	②	②	
	1	4	6	9
	2	1	8	6
+		5	7	6
	4	2	3	1

Now, subtract 4231 from 3196.

	Th	H	T	O
		①	⑫	⑪
	4	~~2~~	~~3~~	~~1~~
–	3	1	9	6
	1	0	3	5

So, simplified form is 1035.

(e) 4245 – 2676 – 589 – 674

We add same signs.

	Th	H	T	O
	①	②	①	○
	2	6	7	6
		5	8	9
+		6	7	4
	3	9	3	9

Now, subtract 3939 from 4245.

	Th	H	T	O
	③	⑫	③	⑮
	~~4~~	~~2~~	~~4~~	5
–	3	9	3	9
	0	3	0	6

So, simplified form is 306.

(f) 5892 – 1069 – 2136 – 876

We add same signs.

	Th	H	T	O
	①	①	②	
	1	0	6	9
	2	1	3	6
+		8	7	6
	4	0	8	1

Now, subtract 4081 from 5892.

	Th	H	T	O
	5	9	9	2
−	4	0	8	1
	1	8	1	1

So, simplified form is 1811.

2. Total number of men = 1526

Total number of women = 1468

Total number of men and women

= 1526 + 1468 = 2994

Total people in village = 6285

Total number of men and women = 2994

So, total number of children

= 6285 − 2994

= 3291

	⑤	⑪	⑱	
	~~6~~	~~2~~	8	5
−	2	9	9	4
	3	2	9	1

So, total number of children are 3291.

3. Number of mango trees = 2162

Number of apple trees = 3152

Total number of apple and mango

= 2162 + 3152 = 5314

So, total number of other fruit trees in the orchard

= 8560 − 5314

= 3246

			⑤	⑩
	8	5	~~6~~	~~0~~
−	5	3	1	4
	3	2	4	6

So, the other fruit trees in the orchard is 3246.

4. Cost of a chair = ₹ 2800

Cost of a table = ₹ 3600

Total cost of chair and table

= ₹ (2800 + 3600)

= ₹ 6400

Man had money = ₹ 7500

So, money left is = ₹ (7500 − 6400)

= ₹ 1100

So, ₹ 1100 was left with him.

	7	5	0	0
−	6	4	0	0
	1	1	0	0

5.

Number of red roses =

Number of white roses =

Total number of roses =

		①	①	
	2	1	5	6
+	1	0	5	6
	3	2	1	2

So, roses left are = (3212 − 2956)

= 256

	②	⑪	⑩	⑫
	~~3~~	~~2~~	~~1~~	~~2~~
−	2	9	5	6
		2	5	6

So, 256 roses are left with him.

6. Earning of man = ₹ 9860

He spent on food = ₹ 2850

He spent on child education = ₹ 1050

Total money he spends

= ₹ (2850 + 1050)

= ₹ 3900

	2	8	5	0
+	1	0	5	0
	3	9	0	0

So, money left is = ₹ (9860 − 3900)

= ₹ 5960

	⑧	⑱		
	~~9~~	~~8~~	6	0
−	3	9	0	0
	5	9	6	0

So, ₹ 5960 is left with him.

7. Earning of a lady = ₹ 8500

She spent on rent = ₹ 1500

She spent on food = ₹ 2800

Total money she spends

= ₹ (1500 + 2800)

= ₹ 4300

	①			
	1	5	0	0
+	2	8	0	0
	4	3	0	0

So, money left is = ₹ (8500 − 4300)

= ₹ 4200

	8	5	0	0
−	4	3	0	0
	4	2	0	0

So, ₹ 4200 is left with her.

8. Total furniture = 7500

Number of chairs = 2400

Number of stools = 1600

Total number of chairs and stools

= 2400 + 1600

= 4000

	①			
	2	4	0	0
+	1	6	0	0
	4	0	0	0

So, Number of tables in the shop

= (7500 – 4000)

= 3500

	7	5	0	0
–	4	0	0	0
	3	5	0	0

So, 3500 tables are in the shop.

9. Total number of boys = 2068

Total number of teachers = 128

Total number of boys and teachers

= (2068 + 128)

= 2196

Total people in school = 5690

So, total girls in school = (5690 – 2196)

= 3494

			①	
	2	0	6	8
+		1	2	8
	2	1	9	6

		⑤	⑱	⑩
	5	~~6~~	~~9~~	~~0~~
–	2	1	9	6
	3	4	9	4

So, total number of girls is 3494.

10. 3142 + 2097 – 4096 – 2896

First we add same signs.

	Th	H	T	O
		①		
	3	1	4	2
+	2	0	9	7
	5	2	3	9

	Th	H	T	O
		①	①	
	4	0	9	6
+	2	8	9	6
	6	9	9	2

Now, we subtract 6992 from 5239.

	Th	H	T	O
			⑧	⑫
	6	9	~~9~~	~~2~~
–	5	2	3	9
	1	7	5	3

Multiple Choice Questions (MCQs)

1. (c); 2. (a); 3. (b); 4. (d); 5. (d); 6. (b); 7. (c); 8. (c); 9. (a); 10. (c).

5. Multiplication

EXERCISE 5.1

Find the product :

(a) 18 × 10 = 18**0** = 180

(b) 37 × 10 = 37**0** = 370

(c) 41 × 100 = 41**00** = 4100

(d) 16 × 100 = 16**00** = 1600

(e) 48 × 1000 = 48**000** = 48000

(f) 315 × 100 = 315**00** = 31500

(g) 95 × 20 = (95 × 2) × 10

= 190 × 10 = **1900**

(h) (78 × 4) × 10 = 6370 × 10

= **63700**

(i) (68 × 4) × 100 = 272 × 100

= **27200**

(j) (91 × 7) × 100 = 637 × 100

= **63700**

(k) (39 × 5) × 100 = 195 × 100

= **19500**

(l) (36 × 3) × 1000 = 108 × 1000

= **108000**

(m) (46 × 7) × 1000 = 322 × 1000

= **322000**

(n) (47 × 6) × 1000 = 282 × 1000

= **282000**

(o) (81 × 2) × 1000 = 162 × 1000

= **162000**

(p) (34 × 9) × 1000 = 306 × 1000

= **306000**

EXERCISE 5.2

Multiply :

1.

H	T	O
4	2	3
	×	2
8	4	6

2.

H	T	O
3	0	2
	×	3
9	0	6

3.

H	T	O
4	2	1
	×	2
8	4	2

4.

H	T	O
3	2	1
	×	3
9	6	3

5.

H	T	O
2	4	1
	×	2
4	8	2

6.

H	T	O
1	2	4
	×	2
2	4	8

7.

Th	H	T	O
3	1	4	2
		×	2
6	2	8	4

8.

Th	H	T	O
4	2	3	4
		×	2
8	4	6	8

9.

Th	H	T	O
3	0	2	1
		×	3
9	0	6	3

10.

Th	H	T	O
1	2	1	2
		×	4
4	8	4	8

11.

Th	H	T	O
3	2	1	3
		×	3
9	6	3	9

12.

Th	H	T	O
2	1	3	2
		×	3
6	3	9	6

13.

Th	H	T	O
3	1	3	4
		×	2
6	2	6	8

14.

Th	H	T	O
2	1	4	2
		×	2
4	2	8	4

15.

Th	H	T	O
3	1	2	4
		×	2
6	2	4	8

16.

Th	H	T	O
3	3	3	3
		×	3
9	9	9	9

17.

Th	H	T	O
4	1	0	4
		×	2
8	2	0	8

18.

Th	H	T	O
2	3	0	2
		×	3
6	9	0	6

19.

Th	H	T	O
4	1	3	2
		×	2
8	2	6	4

20.

Th	H	T	O
2	1	0	4
		×	2
4	2	0	8

21.

Th	H	T	O
3	1	3	2
		×	3
9	3	9	6

22.

Th	H	T	O
2	1	2	2
		×	4
8	4	8	8

23.

Th	H	T	O
2	1	0	2
		×	3
6	3	0	6

24.

Th	H	T	O
3	1	4	2
		×	2
6	2	8	4

25.

Th	H	T	O
3	0	2	3
		×	3
9	0	6	9

26.

Th	H	T	O
2	0	2	1
		×	4
8	0	8	4

27.

Th	H	T	O
3	2	1	3
		×	3
9	6	3	9

EXERCISE 5.3

1. Multiply :

(a)

H	T	O
③	②	
3	7	6
	×	4
1	5	0	4

(b)

H	T	O
④	④	
6	7	8
	×	6
4	0	6	8

(c)

H	T	O
9	2	3
	×	3
2	7	6	9

(d)

H	T	O
④	①	
7	8	3
	×	5
3	9	1	5

(e)

H	T	O
③	⑤	
4	5	9
	×	6
2	7	5	4

(f)

H	T	O
③	②	
8	5	4
	×	7
5	9	7	8

(g)

H	T	O
①	②	
4	5	9
	×	3
1	3	7	7

(h)

H	T	O
③	④	
3	4	5
	×	8
2	7	6	0

(i)

H	T	O
③	⑤	
6	4	8
	×	7
4	5	3	6

(j)

H	T	O
②	②	
5	6	9
	×	3
1	7	0	7

(k)

H	T	O
③	⑤	
8	5	9
	×	6
5	1	5	4

(l)

H	T	O
③	②	
7	5	4
	×	7
5	2	7	8

(m)

H	T	O
②	③	
8	3	4
	×	8
6	6	7	2

(n)

H	T	O
⑤	⑧	
4	5	9
	×	9
4	1	3	1

(o)

H	T	O
	③	
3	1	6
	×	5
1	5	8	0

2. Multiply :

(a)

Th	H	T	O
①	①	①	
4	5	6	4
		×	3
13	6	9	2

(b)

Th	H	T	O
③	①	④	
7	6	2	8
		×	5
38	1	4	0

(c)

Th	H	T	O
①	③	②	
3	2	8	6
		×	4
13	1	4	4

(d)

Th	H	T	O
③	②	③	
3	7	6	9
		×	4
15	0	7	6

(e)

Th	H	T	O
②	①	①	
5	8	3	6
		×	3
1	7	5	0	8

(f)

Th	H	T	O
	③	③	
9	1	7	6
		×	5
4	5	8	8	0

(g)

Th	H	T	O
⑤	⑦	③	
1	6	9	4
		×	8
1	3	5	5	2

(h)

Th	H	T	O
	③	②	
1	0	8	6
		×	4
4	3	4	4

(i)

Th	H	T	O
	③		
2	1	7	1
		×	5
1	0	8	5	5

(j)

Th	H	T	O
①	①	②	
1	3	2	4
		×	5
6	6	2	0

(k)

Th	H	T	O
		⑤	
3	0	0	7
		×	8
2	4	0	5	6

(l)

Th	H	T	O
①	⑦	①	
1	1	9	2
		×	8
9	5	3	6

(m)

Th	H	T	O
①		③	
4	2	1	6
		×	5
2	1	0	8	0

(n)

Th	H	T	O
③	①	①	
7	6	3	2
		×	5
3	8	1	6	0

(o)

Th	H	T	O
		②	
8	1	0	6
		×	4
3	2	4	2	4

(p)

Th	H	T	O
①	⑤	④	
3	1	7	6
		×	7
2	2	2	3	2

(q)

Th	H	T	O
②	④	⑧	
8	2	4	9
		×	9
7	4	2	4	1

(r)

Th	H	T	O
①	⑤	②	
2	1	6	3
		×	8
1	7	3	0	4

EXERCISE 5.4

1. Multiply :

(a)

H	T	O
	6	2
×	2	4
2	4	8
1	2	4	×
1	4	8	8

(b)

H	T	O
	4	3
×	2	6
2	5	8
	8	6	×
1	1	1	8

(c)

H	T	O
	3	4
×	1	8
2	7	2
3	4	×
6	1	2

(d)

H	T	O
	5	2
×	3	4
2	0	8
1	5	6	×
1	7	6	8

(e)

H	T	O
	3	6
×	2	9
3	2	4
	7	2	×
1	0	4	4

(f)

H	T	O
	3	7
×	3	2
	7	4
1	1	1	×
1	1	8	4

(g)

H	T	O
	7	2
×	2	6
	4	3	2
1	4	4	×
1	8	7	2

(h)

H	T	O
	4	8
×	2	5
	2	4	0
	9	6	×
1	2	0	0

(i)

	H	T	O
		5	6
	×	2	3
	1	6	8
1	1	2	×
1	2	8	8

(j)

	H	T	O
		6	4
	×	3	6
	3	8	4
1	9	2	×
2	3	0	4

(k)

	H	T	O
		9	2
	×	1	8
	7	3	6
	9	2	×
1	6	5	6

(l)

	H	T	O
		7	6
	×	2	6
	4	5	6
1	5	2	×
1	9	7	6

Mental Math

1. We know, $15 \times 2 = 30$
   So, Half of $30 = 15$
   So statement is **False.**
2. We know, $4 \times 3 = 12$, $3 \times 6 = 18$
   So, 4×3 , 3×6 gaves same product.
   So, statement is **False.**
3. We know, $15 \times 10 = 150$
   $150 \div 15 = 10$ (**True**)
4. $300 \times 10 = 3000$
   Hence $3000 \div 10 = 300$. (**False**)
5. We know $4 \times 4 = 16$
   So, one quarter of $16 = 4$. (**False**)
6. Five times $13 = 13 \times 5 = 65$ (**False**)
7. Nine fours $= 9 \times 4 = 36$ (**True**)
8. One child has 3 pencils
   17 children have $= 17 \times 3 = 51$
   Statement is (**True**)
9. We know $4 \times 5 = 20$ (**False**)
10. $10 \times 10 = 100$ (**True**)

2. Multiply :

(a)

	H	T	O
	1	2	8
	×	2	4
	5	1	2
2	5	6	×
3	0	7	2

(b)

	H	T	O
	3	3	4
	×	3	8
2	6	7	2
10	0	2	×
12	6	9	2

(c)

	H	T	O
	2	9	2
	×	4	2
	5	8	4
11	6	8	×
12	2	6	4

(d)

	H	T	O
	2	3	4
	×	1	8
1	8	7	2
2	3	4	×
4	2	1	2

(e)

	H	T	O
	2	4	9
	×	2	6
1	4	9	4
4	9	8	×
6	4	7	4

(f)

	H	T	O
	3	1	6
	×	3	5
1	5	8	0
9	4	8	×
11	0	6	0

(g)

	H	T	O
	4	2	8
	×	2	9
3	8	5	2
8	5	6	×
12	4	1	2

(h)

	H	T	O
	6	2	4
	×	3	2
1	2	4	8
18	7	2	×
19	9	6	8

(i)

	H	T	O
	3	1	4
	×	4	6
1	8	8	4
12	5	6	×
14	4	4	4

(j)

	H	T	O
	6	3	8
	×	4	4
2	5	5	2
25	5	2	×
28	0	7	2

(k)

	H	T	O
	7	2	9
	×	4	9
6	5	6	1
29	1	6	×
35	7	2	1

(l)

	H	T	O
	4	3	8
	×	3	7
3	0	6	6
13	1	4	×
16	2	0	6

(m)

	H	T	O
	2	1	9
	×	4	6
1	3	1	4
8	7	6	×
10	0	7	4

(n)

	H	T	O
	4	2	8
	×	8	4
1	7	1	2
34	2	4	×
35	9	5	2

(o)

	H	T	O
	3	9	6
	×	3	6
2	3	7	6
11	8	8	×
14	2	5	6

EXERCISE 5.5

See in answersheet.

EXERCISE 5.6

1. Distance cover in 1 hour = 65 km

So distance covered in 6 hours

= (65 × 6)km

= 390 km

	6	5
	×	6
3	9	0

Hence, bus will cover 390 km distance in 6 hours.

2. Distance cover in 1 hour = 92 km

So, distance cover in 8 hours

= (92 × 8) km

= 736 km

	9	2
	×	8
7	3	6

Hence, train will cover 736 km distance in 8 hours.

3. People in a bus = 64

People sit in 128 buses

= 64 × 128

= 8192

	1	2	8
	×	6	4
	5	1	2
7	6	8	×
8	1	9	2

Hence, 8192 people can sit in 128 buses.

4. Pins in a box = 156

Pins in 32 boxes = 156 × 32

	1	5	6
	×	3	2
	3	1	2
4	6	8	×
4	9	9	2

Hence, 4992 pins would 32 boxes.

5. Cost of 1 shirt = ₹ 565

Cost of 18 shirt

= ₹ (565 × 18)

= ₹ 10170

		5	6	5
		×	1	8
	4	5	2	0
	5	6	5	×
1	0	1	7	0

Hence, the cost of 18 shirt is ₹ 10170.

6. Cost of a toy car = ₹ 399

Cost of 54 toy cars

= ₹ (399 × 54)

= ₹ 21546

		3	9	9
		×	5	4
	1	5	9	6
1	9	9	5	×
2	1	5	4	6

Hence, the cost of 54 toy cars is ₹ 21546.

7. Number of trees in a row = 96

Number of trees in 37 rows

= 96 × 37

= 3552

	9	6	
×	3	7	
6	7	2	
2	8	8	×
3	5	5	2

Hence, 3552 trees will be in 37 rows.

8. Number of apples in a box = 144

Number of apples in 45 boxes = 144 × 45

	1	4	4
	×	4	5
	7	2	0
5	7	6	×
6	4	8	0

Hence, 6480 apples are in 45 boxes.

Comulative Revision - II

1. Subtract the following :

(a)

	Th	H	T	O
	7	8	5	6
−	2	3	4	6
	5	5	1	0

(b)

	Th	H	T	O
	5	9	7	3
−	2	8	1	2
	3	1	6	1

(c)

	Th	H	T	O
	9	0	1	2
−	1	7	9	5
	7	2	9	7

2. Subtract the following :

(a)

	Th	H	T	O
	⑤	⑭	⑨	⑫
	~~6~~	~~5~~	~~0~~	~~2~~
−	2	8	5	9
	3	6	4	3

(b)

	Th	H	T	O
	⑥	⑪	⑩	⑩
	~~7~~	~~2~~	~~1~~	~~0~~
−	6	7	2	8
	0	4	8	2

(c)

	Th	H	T	O
	②	⑨	⑩	⑩
	~~3~~	~~0~~	~~1~~	~~0~~
−	1	5	9	5
	1	4	1	5

3. Find the product :

(a) 6300 (b) 16800

(c) 188000

4. Multiply :

(a)

7	6	2	8
		×	4
3	0	5	1	2

(b)

3	7	2	4
		×	7
2	6	0	6	8

(c) 14200

5. Multiply :

(a)

		6	3
	×	2	4
	2	5	2
1	2	6	×
1	5	1	2

(b)

		9	7
	×	3	9
	8	7	3
2	9	1	×
3	7	8	3

6. Division

EXERCISE 6.1

See in answersheet.

Mental Math

We count in 4s = 4, 8, 12, 16, 20
She has fewer then 20
So, She has more than 16 books because 3 book leftover.
Then she has 16 + 3 = 19 books
Now we count in 5s = 5, 10, 15, 20
So, she has more than 15 book because 4 books leftover
Then she has 15 + 4 = 19 books

EXERCISE 6.2

1. Divide and find the quotient :

(a) 16 : 4)64 ; −4 ; 24 ; −24 ; 0

(b) 15 : 3)45 ; −3 ; 15 ; −15 ; 0

(c) 12 : 8)96 ; −8 ; 16 ; −16 ; 0

(d) 14 : 5)70 ; −5 ; 20 ; −20 ; 0

(e) 13 : 6)78 ; −6 ; 18 ; −18 ; 0

(f) 13 : 7)91 ; −7 ; 21 ; −21 ; 0

(g) 29 : 3)87 ; −6 ; 27 ; −27 ; 0

(h) 16 : 6)96 ; −6 ; 36 ; −36 ; 0

(i) 21 : 4)84 ; −8 ; 04 ; −4 ; 0

(j) 11 : 9)99 ; −9 ; 09 ; −9 ; 0

(k) 12 : 4)48 ; −4 ; 08 ; −8 ; 0

(l) 12 : 7)84 ; −7 ; 14 ; −14 ; 0

2. Divide and find the quotient :

(a) 182 : 4)728 ; −4 ; 32 ; −32 ; 08 ; −8 ; 0

(b) 102 : 7)714 ; −7 ; 014 ; −14 ; 0

(c) 149 : 6)894 ; −6 ; 29 ; −24 ; 54 ; −54 ; 0

(d) 214 : 3)642 ; −6 ; 04 ; −3 ; 12 ; −12 ; 0

(e) 189 : 5)945 ; −5 ; 44 ; −40 ; 45 ; −45 ; 0

(f) 72 : 7)504 ; −49 ; 14 ; −14 ; 0

3. Divide and find the quotient :

(a) 2104 : 3)6312 ; −6 ; 03 ; −3 ; 012 ; −12 ; 0

(b) 2818 : 2)5636 ; −4 ; 16 ; −16 ; 03 ; −2 ; 16 ; −16 ; 0

(c)
$$\begin{array}{r} 695 \\ 9\overline{)6255} \\ -54\downarrow \\ \hline 85 \\ -81\downarrow \\ \hline 45 \\ -45 \\ \hline 0 \end{array}$$

(d)
$$\begin{array}{r} 613 \\ 7\overline{)4291} \\ -42\downarrow \\ \hline 09 \\ -7\downarrow \\ \hline 21 \\ -21 \\ \hline 0 \end{array}$$

(e)
$$\begin{array}{r} 788 \\ 8\overline{)6304} \\ -56\downarrow \\ \hline 70 \\ -64\downarrow \\ \hline 64 \\ -64 \\ \hline 0 \end{array}$$

(f)
$$\begin{array}{r} 1867 \\ 5\overline{)9335} \\ -5\downarrow \\ \hline 43 \\ -40\downarrow \\ \hline 33 \\ -30\downarrow \\ \hline 35 \\ -35 \\ \hline 0 \end{array}$$

(g)
$$\begin{array}{r} 923 \\ 5\overline{)4615} \\ -45\downarrow \\ \hline 11 \\ -10\downarrow \\ \hline 15 \\ -15 \\ \hline 0 \end{array}$$

(h)
$$\begin{array}{r} 1293 \\ 7\overline{)9051} \\ -7\downarrow \\ \hline 20 \\ -14\downarrow \\ \hline 65 \\ -63\downarrow \\ \hline 21 \\ -21 \\ \hline 0 \end{array}$$

(i)
$$\begin{array}{r} 1132 \\ 8\overline{)9056} \\ -8\downarrow \\ \hline 10 \\ -8\downarrow \\ \hline 25 \\ -24\downarrow \\ \hline 16 \\ -16 \\ \hline 0 \end{array}$$

(j)
$$\begin{array}{r} 924 \\ 9\overline{)8316} \\ -81\downarrow \\ \hline 21 \\ -18\downarrow \\ \hline 36 \\ -36 \\ \hline 0 \end{array}$$

(k)
$$\begin{array}{r} 1569 \\ 4\overline{)6276} \\ -4\downarrow \\ \hline 22 \\ -20\downarrow \\ \hline 27 \\ -24\downarrow \\ \hline 36 \\ -36 \\ \hline 0 \end{array}$$

(l)
$$\begin{array}{r} 2694 \\ 3\overline{)8082} \\ -6\downarrow \\ \hline 20 \\ -18\downarrow \\ \hline 28 \\ -27\downarrow \\ \hline 12 \\ -12 \\ \hline 0 \end{array}$$

EXERCISE 6.3

1. Divide, find the quotient and remainder :

(a) $519 \div 4$

$$\begin{array}{r} 129 \\ 4\overline{)519} \\ -4\downarrow \\ \hline 11 \\ -8\downarrow \\ \hline 39 \\ -36 \\ \hline 3 \end{array}$$

So, quotient 129 and remainder is 3

(b) $849 \div 7$

$$\begin{array}{r} 121 \\ 7\overline{)849} \\ -7\downarrow \\ \hline 14 \\ -14\downarrow \\ \hline 09 \\ -7 \\ \hline 2 \end{array}$$

So, quotient 121 and remainder is 2

(c) $896 \div 9$

$$\begin{array}{r} 99 \\ 9\overline{)896} \\ -81\downarrow \\ \hline 86 \\ -81 \\ \hline 5 \end{array}$$

So, quotient 99 and remainder is 5

(b) $256 \div 3$

$$\begin{array}{r} 85 \\ 3\overline{)256} \\ -24\downarrow \\ \hline 16 \\ -15 \\ \hline 1 \end{array}$$

So, quotient 85 and remainder is 1

(e) $982 \div 9$

$$\begin{array}{r} 109 \\ 9\overline{)982} \\ -9\downarrow\downarrow \\ \hline 082 \\ -81 \\ \hline 1 \end{array}$$

So, quotient 109 and remainder is 1

(f) $463 \div 4$

$$\begin{array}{r} 115 \\ 4\overline{)463} \\ -4\downarrow \\ \hline 6 \\ -4\downarrow \\ \hline 23 \\ -20 \\ \hline 3 \end{array}$$

So, quotient 115 and remainder is 3

(g) $318 \div 4$

$$\begin{array}{r} 79 \\ 4\overline{)318} \\ -28\downarrow \\ \hline 38 \\ -36 \\ \hline 2 \end{array}$$

So, quotient 79 and remainder is 2

(h) $712 \div 6$

$$\begin{array}{r} 118 \\ 6\overline{)712} \\ -6\downarrow \\ \hline 11 \\ -6\downarrow \\ \hline 52 \\ -48 \\ \hline 4 \end{array}$$

So, quotient 118 and remainder is 4

(i) $515 \div 7$

$$\begin{array}{r} 73 \\ 7\overline{)515} \\ -49\downarrow \\ \hline 25 \\ -21 \\ \hline 4 \end{array}$$

So, quotient 73 and remainder is 4

(j) $730 \div 6$

$$\begin{array}{r} 121 \\ 6\overline{)730} \\ -6\downarrow \\ \hline 13 \\ -12\downarrow \\ \hline 10 \\ -6 \\ \hline 4 \end{array}$$

So, quotient 121 and remainder is 4

(k) $831 \div 5$

$$\begin{array}{r} 166 \\ 5\overline{)831} \\ -5\downarrow \\ \hline 33 \\ -30\downarrow \\ \hline 31 \\ -30 \\ \hline 1 \end{array}$$

So, quotient 166 and remainder is 1

(l) $702 \div 5$

$$\begin{array}{r} 140 \\ 5\overline{)702} \\ -5\downarrow \\ \hline 20 \\ -20\downarrow \\ \hline 2 \end{array}$$

So, quotient 140 and remainder is 2

2. Divide, find the quotient and remainder :

(a) $4775 \div 3$

$$\begin{array}{r} 1591 \\ 3\overline{)4775} \\ -3\downarrow \\ \hline 17 \\ -15\downarrow \\ \hline 27 \\ -27\downarrow \\ \hline 05 \\ -3 \\ \hline 2 \end{array}$$

So, quotient 1591 and remainder is 2.

(b) $7136 \div 5$

$$\begin{array}{r} 1427 \\ 5\overline{)7136} \\ -5\downarrow \\ \hline 21 \\ -20\downarrow \\ \hline 13 \\ -10\downarrow \\ \hline 36 \\ -35 \\ \hline 1 \end{array}$$

So, quotient 1427 and remainder is 1.

(c) $4354 \div 3$

$$\begin{array}{r} 1451 \\ 3\overline{)4354} \\ -3\downarrow \\ \hline 13 \\ -12\downarrow \\ \hline 15 \\ -15\downarrow \\ \hline 04 \\ -3 \\ \hline 1 \end{array}$$

So, quotient 1451 and remainder is 1.

(d) $9106 \div 5$

$$\begin{array}{r} 1821 \\ 5\overline{)9106} \\ -5\downarrow \\ \hline 41 \\ -40\downarrow \\ \hline 10 \\ -10\downarrow \\ \hline 06 \\ -5 \\ \hline 1 \end{array}$$

So, quotient 1821 and remainder is 1.

(e) $8059 \div 6$

$$\begin{array}{r} 1343 \\ 6\overline{)8059} \\ -6\downarrow \\ \hline 20 \\ -18\downarrow \\ \hline 25 \\ -24\downarrow \\ \hline 19 \\ -18 \\ \hline 1 \end{array}$$

So, quotient 1343 and remainder is 1.

(f) $1937 \div 6$

$$\begin{array}{r} 322 \\ 6\overline{)1937} \\ -18\downarrow \\ \hline 13 \\ -12\downarrow \\ \hline 17 \\ -12 \\ \hline 5 \end{array}$$

So, quotient 322 and remainder is 5.

(g) $6275 \div 4$

$$\begin{array}{r} 1568 \\ 4\overline{)6275} \\ -4\downarrow \\ \hline 22 \\ -20\downarrow \\ \hline 27 \\ -24 \\ \hline 35 \\ -32 \\ \hline 3 \end{array}$$

So, quotient 1568 and remainder is 3.

(h) $3056 \div 5$

$$\begin{array}{r} 611 \\ 5\overline{)3056} \\ -30\downarrow \\ \hline 05 \\ -5\downarrow \\ \hline 06 \\ -5 \\ \hline 1 \end{array}$$

So, quotient 611 and remainder is 1.

(i) $8317 \div 9$

$$\begin{array}{r} 924 \\ 9\overline{)8317} \\ -81\downarrow \\ \hline 21 \\ -18\downarrow \\ \hline 37 \\ -36 \\ \hline 1 \end{array}$$

So, quotient 924 and remainder is 1.

(j) $9235 \div 7$

$$\begin{array}{r} 1319 \\ 7\overline{)9235} \\ -7\downarrow \\ \hline 22 \\ -21\downarrow \\ \hline 13 \\ -7 \\ \hline 65 \\ -63 \\ \hline 2 \end{array}$$

So, quotient 1319 and remainder is 2.

(k) $1418 \div 4$

$$\begin{array}{r} 354 \\ 4\overline{)1418} \\ -12\downarrow \\ \hline 21 \\ -20\downarrow \\ \hline 18 \\ -16 \\ \hline 2 \end{array}$$

So, quotient 354 and remainder is 2.

(l) $4216 \div 7$

$$\begin{array}{r} 602 \\ 7\overline{)4216} \\ -42\downarrow\downarrow \\ \hline 016 \\ -14 \\ \hline 2 \end{array}$$

So, quotient 602 and remainder is 2.

3. Divide and check your answer :

(a) $318 \div 4$

$$\begin{array}{r} 79 \\ 4\overline{)318} \\ -28\downarrow \\ \hline 38 \\ -36 \\ \hline 2 \end{array}$$

Checking,

Dividend = (Divisor × Quotient) + Remainder

$318 = (4 \times 79) + 2$

$318 = 316 + 2$

$318 = 318$

So, answer is correct.

(b) $726 \div 7$

$$\begin{array}{r} 103 \\ 7\overline{)726} \\ -7\downarrow\downarrow \\ \hline 026 \\ -21 \\ \hline 5 \end{array}$$

Checking,

Dividend = (Divisor × Quotient) + Remainder

$726 = (7 \times 103) + 5$

$726 = 721 + 5$

$726 = 726$

So, answer is correct.

(c) $884 \div 8$

$$\begin{array}{r} 110 \\ 8\overline{)884} \\ -8\downarrow \\ \hline 08 \\ -8\downarrow \\ \hline 04 \end{array}$$

Checking,

Dividend = (Divisor × Quotient) + Remainder

$884 = (8 \times 110) + 4$

$884 = 880 + 4$

$884 = 884$

So, answer is correct.

(d) $906 \div 7$

$$\begin{array}{r} 129 \\ 7\overline{)906} \\ -7\downarrow \\ \hline 20 \\ -14\downarrow \\ \hline 66 \\ -63 \\ \hline 3 \end{array}$$

Checking,

Dividend = (Divisor × Quotient) + Remainder

$906 = (7 \times 129) + 3$

$906 = 903 + 3$

$906 = 906$

So, answer is correct.

(e) $847 \div 9$

$$\begin{array}{r} 94 \\ 9\overline{)847} \\ -81\downarrow \\ \hline 37 \\ -36 \\ \hline 1 \end{array}$$

Checking,

Dividend = (Divisor × Quotient) + Remainder

$847 = (9 \times 94) + 1$

$847 = 846 + 1$

$847 = 847$

So, answer is correct.

(f) $376 \div 5$

$$\begin{array}{r} 75 \\ 5\overline{)376} \\ -35\downarrow \\ \hline 26 \\ -25 \\ \hline 1 \end{array}$$

Checking,

Dividend = (Divisor × Quotient) + Remainder

$376 = (5 \times 75) + 1$

$376 = 375 + 1$

$376 = 376$

So, answer is correct.

(g) $2783 \div 9$

$$\begin{array}{r} 309 \\ 9\overline{)2783} \\ -27\downarrow\downarrow \\ \hline 083 \\ -81 \\ \hline 2 \end{array}$$

Checking,

Dividend = (Divisor × Quotient) + Remainder

$2783 = (9 \times 309) + 2$

$2783 = 2781 + 2$

$2783 = 2783$

So, answer is correct.

(h) $3145 \div 6$

$$\begin{array}{r} 524 \\ 6\overline{)3145} \\ -30\downarrow \\ \hline 14 \\ -12\downarrow \\ \hline 25 \\ -24 \\ \hline 1 \end{array}$$

Checking,

Dividend = (Divisor × Quotient) + Remainder

$3145 = (6 \times 524) + 1$

$3145 = 3144 + 1$

$3145 = 3145$

So, answer is correct.

(i) $6237 \div 4$

$$\begin{array}{r} 1559 \\ 4\overline{)6237} \\ -4\downarrow \\ \hline 22 \\ -20\downarrow \\ \hline 23 \\ -20\downarrow \\ \hline 37 \\ -36 \\ \hline 1 \end{array}$$

Checking,

Dividend = (Divisor × Quotient) + Remainder

$6237 = (4 \times 1559) + 1$

$6237 = 6236 + 1$

$6237 = 6237$

So, answer is correct.

(j) $4125 \div 8$

$$\begin{array}{r} 515 \\ 8\overline{)4125} \\ -40\downarrow \\ \hline 12 \\ -8 \\ \hline 45 \\ -40 \\ \hline 5 \end{array}$$

Checking,

Dividend = (Divisor × Quotient) + Remainder

$4125 = (8 \times 515) + 5$

$4125 = 4120 + 5$

$4125 = 4125$

So, answer is correct.

(k) $9078 \div 7$

$$\begin{array}{r} 1296 \\ 7\overline{)9078} \\ -7\downarrow \\ \hline 20 \\ -14\downarrow \\ \hline 67 \\ -63\downarrow \\ \hline 48 \\ -42 \\ \hline 6 \end{array}$$

Checking,

Dividend = (Divisor × Quotient) + Remainder

$9078 = (7 \times 1296) + 6$

$9078 = 9072 + 6$

$9078 = 9078$

So, answer is correct.

(l) $4162 \div 5$

Checking,

Dividend = (Divisor × Quotient) + Remainder

$4162 = (5 \times 832) + 2$

$4162 = 4160 + 2$

$4162 = 4162$

So, answer is correct.

$$\begin{array}{r} 832 \\ 5\overline{)4162} \\ -40\downarrow \\ \hline 16 \\ -15\downarrow \\ \hline 12 \\ -10 \\ \hline 2 \end{array}$$

EXERCISE 6.4

1. Divide by 10, find the quotient and remainder :

(a) $62 \div 10$

$$\begin{array}{r} 6 \\ 10\overline{)62} \\ -60 \\ \hline 2 \end{array}$$

quotient 6 and remainder is 2

(b) $49 \div 10$

$$\begin{array}{r} 4 \\ 10\overline{)49} \\ -40 \\ \hline 9 \end{array}$$

quotient 4 and remainder is 9

(c) $316 \div 10$

$$\begin{array}{r} 31 \\ 10\overline{)316} \\ -30\downarrow \\ \hline 16 \\ -10 \\ \hline 6 \end{array}$$

quotient 31 and remainder is 6

(d) $412 \div 10$

$$\begin{array}{r} 41 \\ 10\overline{)412} \\ -40\downarrow \\ \hline 12 \\ -10 \\ \hline 2 \end{array}$$

quotient 41 and remainder is 2

(e) $8163 \div 10$

$$\begin{array}{r} 816 \\ 10\overline{)8163} \\ -80\downarrow \\ \hline 16 \\ -10\downarrow \\ \hline 63 \\ -60 \\ \hline 3 \end{array}$$

quotient 816 and remainder is 3

(f) $4109 \div 10$

$$\begin{array}{r} 410 \\ 10\overline{)4109} \\ -40\downarrow \\ \hline 10 \\ -10\downarrow \\ \hline 9 \end{array}$$

quotient 410 and remainder is 9

(g) $6028 \div 10$

$$\begin{array}{r} 602 \\ 10\overline{)6028} \\ -60\downarrow\downarrow \\ \hline 28 \\ -20 \\ \hline 8 \end{array}$$

(h) $3724 \div 10$

$$\begin{array}{r} 372 \\ 10\overline{)3724} \\ -30\downarrow \\ \hline 72 \\ 70\downarrow \\ \hline 24 \\ 20 \\ \hline 4 \end{array}$$

quotient 602 and remainder is 8

quotient 372 and remainder is 4

2. Divide by 100, find the quotient and remainder :

(a) $412 \div 100$

$$\begin{array}{r|l} 100 & 412 \;\big\lfloor\; 4 \\ -400 & \\ \hline 12 & \end{array}$$

quotient 4 and remainder is 12

(b) $916 \div 100$

$$\begin{array}{r|l} 100 & 916 \;\big\lfloor\; 9 \\ -900 & \\ \hline 16 & \end{array}$$

quotient 9 and remainder is 16

(c) $317 \div 100$

$$\begin{array}{r|l} 100 & 317 \;\big\lfloor\; 3 \\ -300 & \\ \hline 17 & \end{array}$$

quotient 3 and remainder is 17

(d) $823 \div 100$

$$\begin{array}{r|l} 100 & 823 \;\big\lfloor\; 8 \\ -800 & \\ \hline 23 & \end{array}$$

quotient 8 and remainder is 23

(e) $6128 \div 100$

$$\begin{array}{r|l} & 61 \\ 100 & 6128 \\ -600\downarrow & \\ \hline 128 & \\ -100 & \\ \hline 28 & \end{array}$$

quotient 61 and remainder is 28

(f) $9146 \div 100$

$$\begin{array}{r|l} & 91 \\ 100 & 9146 \\ -900\downarrow & \\ \hline 146 & \\ -100 & \\ \hline 46 & \end{array}$$

quotient 91 and remainder is 46

(g) $72492 \div 100$

$$\begin{array}{r|l} & 724 \\ 100 & 72492 \\ -700\downarrow & \\ \hline 249 & \\ -200\downarrow & \\ \hline 492 & \\ -400 & \\ \hline 92 & \end{array}$$

quotient 724 and remainder is 92

(h) $67238 \div 100$

$$\begin{array}{r|l} & 672 \\ 100 & 67238 \\ -600\downarrow & \\ \hline 723 & \\ -700\downarrow & \\ \hline 238 & \\ -200 & \\ \hline 38 & \end{array}$$

quotient 672 and remainder is 38

3. Divide by 1000, find the quotient and remainder :

(a) $7123 \div 1000$

$$\begin{array}{r|l} 1000 & 7123 \;\big\lfloor\; 7 \\ -7000 & \\ \hline 123 & \end{array}$$

quotient 7 and remainder is 123

(b) $6296 \div 1000$

$$\begin{array}{r|l} 1000 & 6296 \;\big\lfloor\; 6 \\ -6000 & \\ \hline 296 & \end{array}$$

quotient 6 and remainder is 296

(c) $4128 \div 1000$

$$\begin{array}{r|l} 1000 & 4128 \;\big\lfloor\; 4 \\ -4000 & \\ \hline 128 & \end{array}$$

quotient 4 and remainder is 128

(d) $1792 \div 1000$

$$\begin{array}{r|l} 1000 & 1792 \;\big\lfloor\; 1 \\ -1000 & \\ \hline 792 & \end{array}$$

quotient 1 and remainder is 792

(e) $30762 \div 1000$

$$\begin{array}{r|l} & 30 \\ 1000 & 30762 \\ -3000\downarrow & \\ \hline 0762 & \end{array}$$

quotient 30 and remainder is 762

(f) $41508 \div 1000$

$$\begin{array}{r|l} & 41 \\ 1000 & 41508 \\ -4000\downarrow & \\ \hline 1508 & \\ -1000 & \\ \hline 508 & \end{array}$$

quotient 41 and remainder is 508

(g) $31964 \div 1000$

$$\begin{array}{r|l} & 31 \\ 1000 & 31964 \\ -3000\downarrow & \\ \hline 1964 & \\ -1000 & \\ \hline 964 & \end{array}$$

quotient 31 and remainder is 964

(h) $92894 \div 1000$

$$\begin{array}{r|l} & 92 \\ 1000 & 92894 \\ -9000\downarrow & \\ \hline 2894 & \\ -2000 & \\ \hline 894 & \end{array}$$

quotient 92 and remainder is 894

EXERCISE 6.5

1. Quantity of sweets = 496

Total group fo students = 8

So,

Total sweets in each student $= 496 \div 8$

$= 62$

$$\begin{array}{r|l} & 62 \\ 8 & 496 \\ -48\downarrow & \\ \hline 16 & \\ -16 & \\ \hline 0 & \end{array}$$

So, 62 sweets does each student get.

2. 7 students can sit on a bench.

So,

It required to 2940 students $= (2940 \div 7)$

$= 420$

$$\begin{array}{r|l} & 420 \\ 7 & 2940 \\ -28\downarrow & \\ \hline 14 & \\ -14 & \\ \hline 0 & \end{array}$$

So, 420 benches will required to 2940 students.

3. A vase can hold flowers = 6

Vases are needed to hold 3008 flowers

$= (3008 \div 6)$

$= 501$

$$\begin{array}{r} 501 \\ 6\overline{)3008} \\ -30\downarrow\downarrow \\ \hline 08 \\ -6 \\ \hline 2 \end{array}$$

So, 501 vases are needed to hold 3008 flowers and 2 flowers will be left after the arrangement.

4. Total number of apples = 8

Total number of apples put in crates

$= (736 \div 8)$

$= 92$

$$\begin{array}{r} 92 \\ 8\overline{)736} \\ -72\downarrow \\ \hline 16 \\ -16 \\ \hline 0 \end{array}$$

So, 92 crates are required to put 736 apples.

5. Number of crayons = 8

Total number of crayons needed to box

$= (2312 \div 8)$

$= 289$

$$\begin{array}{r} 289 \\ 8\overline{)2312} \\ -16\downarrow \\ \hline 71 \\ -64\downarrow \\ \hline 72 \\ -72 \\ \hline 0 \end{array}$$

So, 289 boxes are needed for 2312 crayons.

6. Total number of pages = 1024

Total number of books = 8

$= (1024 \div 8)$

$= 128$

$$\begin{array}{r} 128 \\ 8\overline{)1024} \\ -8\downarrow \\ \hline 22 \\ -16\downarrow \\ \hline 64 \\ -64 \\ \hline 0 \end{array}$$

So, 128 pages are in one book.

7. Cost of a purse = ₹ 4

Cost of purse can bought = ₹ 538

$= ₹ (538 \div 4)$

$= 134$

$$\begin{array}{r} 134 \\ 4\overline{)538} \\ -4\downarrow \\ \hline 13 \\ -12\downarrow \\ \hline 18 \\ -16 \\ \hline 2 \end{array}$$

So, 134 purses can be bought for ₹ 538. And ₹ 2 will be left after buying the purses.

8. A car goes 8 km in one liter patrol.

So, it need petrol to go 9376 km

$= (9376 \div 8)$

$= 1172$

$$\begin{array}{r} 1172 \\ 8\overline{)9376} \\ -8\downarrow \\ \hline 13 \\ -8\downarrow \\ \hline 57 \\ -56\downarrow \\ \hline 16 \\ -16 \\ \hline 0 \end{array}$$

So, 1172 l petrol is required to go 9376 km.

9. Cost of 8 tables = ₹ 2600

Cost of 1 table

$= ₹ (2600 \div 8)$

$= ₹ 325$

$$\begin{array}{r} 325 \\ 8\overline{)2600} \\ -24\downarrow \\ \hline 20 \\ -16\downarrow \\ \hline 40 \\ -40 \\ \hline 0 \end{array}$$

So, cost of 1 table is ₹ 325.

10. Cost of 5 bicycles = ₹ 9750

Cost of 1 bicycle

$= ₹ (9750 \div 5)$

$= ₹ 1950$

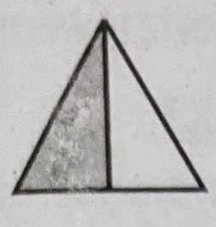
$$\begin{array}{r} 1950 \\ 5\overline{)9750} \\ -5\downarrow \\ \hline 47 \\ -45\downarrow \\ \hline 25 \\ -25 \\ \hline 0 \end{array}$$

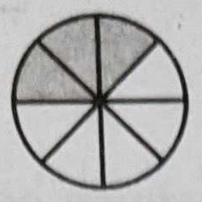
So, cost of 1 bicycle is ₹ 1950.

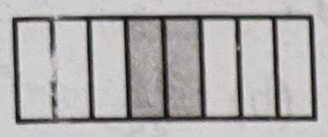
7. Fractions

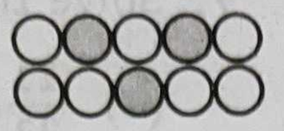
EXERCISE 7.1

1. See in answersheet.
2. Colour the given part of the shapes or groups :

(a) 

(b) 

(c) 

(d) 

EXERCISE 7.2

See in answersheet.

EXERCISE 7.3

See in answersheet.

EXERCISE 7.4

See in answersheet.

EXERCISE 7.5

1. Add the following :

(a) $\frac{1}{5} + \frac{2}{5} = \frac{1+2}{5} = \frac{3}{5}$

(b) $\frac{3}{11} + \frac{5}{11} = \frac{3+5}{11} = \frac{8}{11}$

(c) $\frac{6}{13} + \frac{3}{13} = \frac{6+3}{13} = \frac{9}{13}$

(d) $\frac{1}{6} + \frac{2}{6} = \frac{1+2}{6} = \frac{3}{6} = \frac{1}{2}$

(e) $\frac{11}{20} + \frac{5}{20} = \frac{11+5}{20} = \frac{16}{20} = \frac{4}{5}$

(f) $\frac{13}{21} + \frac{3}{21} = \frac{13+3}{21} = \frac{16}{21}$

(g) $\frac{3}{17} + \frac{6}{17} = \frac{3+6}{17} = \frac{9}{17}$

(h) $\frac{7}{8} + \frac{1}{8} = \frac{7+1}{8} = \frac{8}{8} = 1$

(i) $\frac{5}{14} + \frac{3}{14} = \frac{5+3}{14} = \frac{8}{14} = \frac{4}{7}$

(j) $\frac{3}{31} + \frac{4}{31} = \frac{3+4}{31} = \frac{7}{31}$

(k) $\frac{5}{27} + \frac{2}{27} = \frac{5+2}{27} = \frac{7}{27}$

(l) $\frac{3}{19} + \frac{4}{19} = \frac{3+4}{19} = \frac{7}{19}$

2. Subtract the following :

(a) $\frac{5}{9} - \frac{2}{9} = \frac{5-2}{9} = \frac{3}{9} = \frac{1}{3}$

(b) $\frac{6}{11} - \frac{2}{11} = \frac{6-2}{11} = \frac{4}{11}$

(c) $\frac{15}{23} - \frac{2}{23} = \frac{15-2}{23} = \frac{13}{23}$

(d) $\frac{18}{23} - \frac{16}{23} = \frac{18-16}{23} = \frac{2}{23}$

(e) $\frac{6}{13} - \frac{3}{13} = \frac{6-3}{13} = \frac{3}{13}$

(f) $\frac{7}{9} - \frac{2}{9} = \frac{7-2}{9} = \frac{5}{9}$

(g) $\frac{6}{17} - \frac{5}{17} = \frac{6-5}{17} = \frac{1}{17}$

(h) $\frac{5}{19} - \frac{3}{19} = \frac{5-3}{19} = \frac{2}{19}$

(i) $\frac{8}{31} - \frac{6}{31} = \frac{8-6}{31} = \frac{2}{31}$

(j) $\frac{6}{25} - \frac{2}{25} = \frac{6-2}{25} = \frac{4}{25}$

(k) $\frac{10}{33} - \frac{7}{33} = \frac{10-7}{33} = \frac{3}{33} = \frac{1}{11}$

(l) $\frac{18}{19} - \frac{17}{19} = \frac{18-17}{19} = \frac{1}{19}$

3. See in answersheet.

EXERCISE 7.6

1. Solve the following :

(a) $\frac{1}{2} \times 14 = \frac{1 \times 14}{2} = 7$

(b) $\frac{1}{3} \times 27 = \frac{1 \times 27}{3} = 9$

(c) $\frac{1}{4} \times 20 = \frac{1 \times 20}{4} = 5$

(d) $\frac{1}{4} \times 32 = \frac{1 \times 32}{4} = 8$

(e) $\frac{1}{5} \times 30 = \frac{1 \times 30}{5} = 6$

(f) $\frac{1}{6} \times 42 = \frac{1 \times 42}{6} = 7$

(g) $\frac{1}{7} \times 49 = \frac{1 \times 49}{7} = 7$

(h) $\frac{1}{8} \times 64 = \frac{1 \times 64}{8} = 8$

(i) $\frac{1}{9} \times 36 = \frac{1 \times 36}{9} = 4$

(j) $\frac{1}{10} \times 90 = \frac{1 \times 90}{10} = 9$

Mental Math

1. Total part of circle = 6 (denominator)
   Total shaded part of circle
   = 3 (numberator) $\frac{3}{6}$
2. In a week 7 days. So, numerator is 5
   and, denominator is 7, $\frac{5}{7}$ fraction.
3. One circle has $\frac{1}{4}$ part, second has **1** part,
   So, these are not in same value.
4. One fourth of 32 = $\frac{1}{4} \times 32^{8} = 8$
5. Numerator is equal or more then in improper fraction.

Multiplication Choice Questions (MCQs)

1. (a); **2.** (b); **3.** (c); **4.** (c); **5.** (b); **6.** (b); **7.** (b); **8.** (c); **9.** (a); **10.** (d)

Half Yearly Examination Paper

Multiply Choice Questions

1. Tick (✓) the correct option :
(a) (i); (b) (i); (c) (iii); (d) (i).

2. Write the successor of :
   (a) **3769 + 1 = 3770**
   (b) **8147 + 1 = 8148**
3. **7289, 6728, 5196, 4563**
4. **6728 + 3763 = 10491,**
   4163 + 2897 = 7060
   10491 – 7060 = 3431
5. Find the product of :

(a)

		7	6	3
		×	2	8
	6	1	0	4
1	5	2	6	×
2	1	3	6	4

(b)

		9	1	7
		×	4	7
	6	4	1	9
3	6	6	8	×
4	3	0	9	9

6. Divide :

(a)
$$\begin{array}{r} 964 \\ 7\overline{)6754} \\ -63\downarrow \\ \hline 45 \\ -42\downarrow \\ \hline 34 \\ -28 \\ \hline 6 \end{array}$$

(b)
$$\begin{array}{r} 973 \\ 9\overline{)8765} \\ -81\downarrow \\ \hline 66 \\ -63\downarrow \\ \hline 35 \\ -27 \\ \hline 8 \end{array}$$

7. Solve the following :
   (a) $\frac{11}{23}$ (b) $\frac{13}{35}$
8. Total number of men = 2356
   Total number of women = 2197
   Total number of men and women
   = 2356 + 2197 = 4553
   Total people in village = 8796
   Total number of men and women = 4553

	8	7	9	6
–	4	5	5	3
	4	2	4	3

   So, total number of children
   = 8796 – 4553 = 4243
   So, total number of children are 4243.
9. Number of trees in a row = 48
   Number of trees in 29 rows = 48 × 29
   = 1392

		4	8
	×	2	9
	4	3	2
	9	6	×
1	3	9	2

   Hence, 1392 trees will be in 48 rows.
10. Cost of 8 tables = ₹ 3200
    Cost of 1 table = ₹ (3200 ÷ 8)
    = ₹ 325
    So, cost of 1 table is ₹ 400.

$$\begin{array}{r} 400 \\ 8\overline{)3200} \\ -32\downarrow\downarrow \\ \hline 000 \end{array}$$

8. Geometrical shapes

EXERCISE 8.1

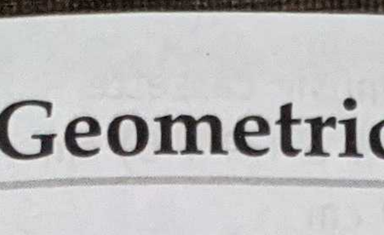
See in answersheet.

EXERCISE 8.2

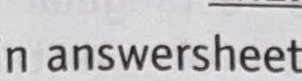
See in answersheet.

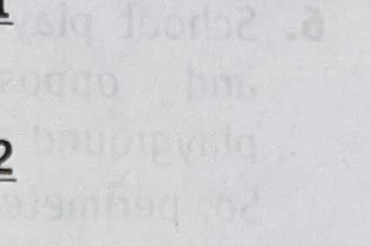
EXERCISE 8.3

Draw a line segment joining the given points :

1. 

2. 

3. 

4. 

EXERCISE 8.4

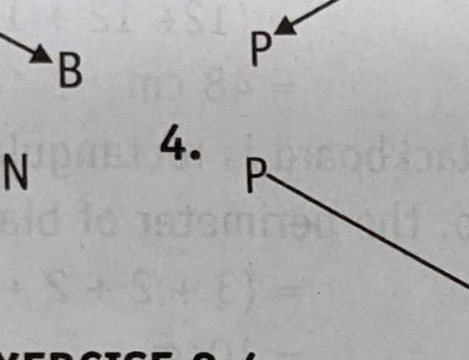
1. Do yourself.
2. See in answersheet.

EXERCISE 8.5

1. Identify which lines are parallel.

   (c)

2. With the help of properties, write the measurement of the sides ofthe following figures.

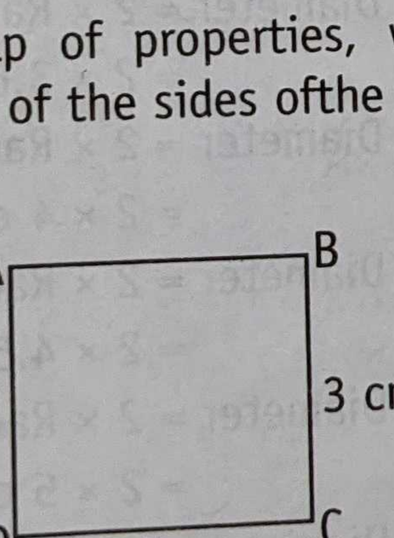
   (a) 

   We give, BC= 3 cm, DC = 5 cm

   So, In parallelogram opposite sides are equal and parallel.

   AB = 5 cm = DC

   AD = 3 cm = BC

   (b) 

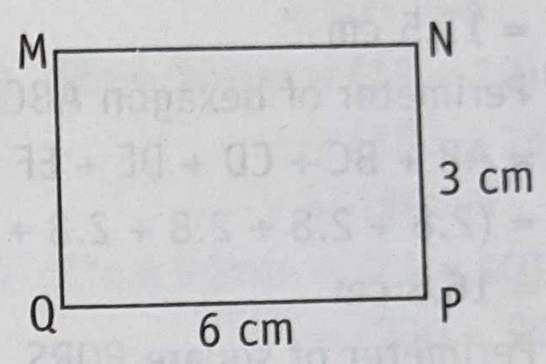
   Perimeter of square PQRS

   So, SR = 4 cm

   Then, PQ= 4 cm

   PS= 4 cm

   QR = 4 cm

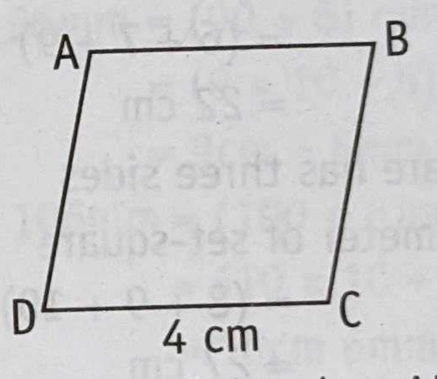
   (c) 

   We give, NP = 3 cm, QP = 6 cm

   So, In rectangle opposite sides are equal.

   MQ = 3 cm = NP

   MN = 6 cm = QP

   (d) 

   Perimeter of rhombus ABCD

   So, DC = 4 cm

   Then, AB = 4 cm, BC = 4 cm

   AD = 4 cm

3. See in answersheet.

EXERCISE 8.6

1. Find the perimeter of the following figures :

   (a) Perimeter of ΔABC

   = AB + BC + CA

   = (4 + 7 + 6) cm = 17 cm

   (b) Perimeter of rectangle PQRS

   = PQ + QR + RS + SP

   = (6 + 4 + 6 + 4) cm = 20 cm

   (c) Perimeter of rhombus $\Delta ABCD$

   = AB + BC + CD + BA

   = (5 + 5 + 5 + 5) cm = 20 cm

   (d) Perimeter of ΔPQR

= PQ + QR + RP
= (6 + 8 + 10) cm = 24 cm

(e) Perimeter of ABCD
= AB + BC + CD + DA
= (3 + 6 + 5 + 4) cm = 18 cm

(f) Perimeter of this figure is
= PQ + QR + RS + ST + TP
= (3.5 + 3.5 + 3.5 + 3.5 + 3.5) cm
= 17.5 cm

(g) Perimeter of hexagon ABCDEF
= AB + BC + CD + DE + EF + FA
= (2.8 + 2.8 + 2.8 + 2.8 + 2.8) cm
= 16.8 cm

(h) Perimeter of square PQRS
= PQ + QR + RS + SP
= (5.2 + 5.2 + 5.2 + 5.2) cm
= 20.8 cm

2. We know that sandwich is triangle shape.
So, perimeter of sandwich sides is
= (6 + 7 + 9) cm
= 22 cm

3. Set square has three sides
So, perimeter of set-square
= (8 + 9 + 10) cm
= 27 cm

4. We know that top of a table is rectangular in shape, opposite sides of rectangular table are equal.
So, perimeter of the table is
= (120 + 90 + 120 + 90) cm
= 420 cm

5. We know that music cassette is rectangular.
So, perimeter of a music cassette
= (9 + 6 + 9 + 6) cm
= 30 cm

6. School playground is rectangular shape and opposite side of rectangular playground are equal.
So, perimeter of playground
= (150 + 120 + 150 + 120) m
= 540 m

7. A handkerchief is square shape and it each sides are equal.
So, perimeter of square handkerchief
= (12+ 12 + 12 + 12) cm
= 48 cm

8. Blackboard is rectangular shape.
So, the perimeter of blackboard
= (3 + 2 + 2 + 3) cm
= 10cm

EXERCISE 8.7

1. Calculate the diameter of the circle whose radius is given :

(a) Diameter = 2 × Radius
= 2 × 3 = 6 cm

(b) Diameter = 2 × Radius
= 2 × 3.6 cm = 7.2 cm

(c) Diameter = 2 × Radius
= 2 × 4 cm = 8 cm

(d) Diameter = 2 × Radius
= 2 × 4.5 cm = 9.0 cm

(e) Diameter = 2 × Radius
= 2 × 5 cm = 10 cm

(f) Diameter = 2 × Radius
= 2 × 7 cm = 14 cm

9. Measurement of Length

EXERCISE 9.1

1. Change the following into centimeters :

(a) 4m = (4 × 100)cm = 400cm

(b) 15m = (15 × 100)cm = 1500cm

(c) 32m = (32 × 100)cm = 3200cm

(d) 6m 73cm = (6 × 100)cm + 73cm
= (600 + 73)cm = 673cm

(e) 16m 16cm = (16 × 100)cm + 16cm
= (1600cm + 16cm)
= 1616cm

(f) 25m 68cm = (25 × 100)cm + 68cm
= 2500cm + 68cm
= 2568cm

2. Change the following into meters and centimeters :

(a) 514cm = 500cm + 14cm
= (5 × 100)cm + 14cm
= 5m + 14cm = 5m 14cm

(b) 816cm = 800cm + 16cm
= (8 × 100)cm + 16cm
= 8m + 16cm = 8m 16cm

(c) 788cm = 700cm + 88cm
= (7 × 100)cm + 88cm
= 7m + 88cm = 7m 88cm

(d) 2167cm = 2100cm + 67cm
= (21 × 100)cm + 67cm
= 21m + 67cm = 21m 67cm

(e) 4816cm = 4800cm + 16 cm
= (48 × 100)cm + 16cm
= 48m + 16 cm = 48m 16cm

(f) 9634 cm = 9600cm + 34cm
= (96 × 100)cm + 34cm
= 96m + 34cm = 96m 34cm

EXERCISE 9.2

1. Convert the following into metres (m) :

(a) 6km = (6 × 1000)m = 6000m

(b) 22km = (22 × 1000)m = 22000m

(c) 138km = (138 × 1000)m = 138000m

(d) 8km 514m = (8 × 1000)m + 514 m
= 8000m + 514m
= 8514m

(e) 32km 140m = (32 × 1000)m + 140m
= 32000m + 140m
= 32140m

(f) 26km 618m = (26 × 1000)m + 618m
= 26000m + 618m
= 26618m

2. Convert the following into km and m :

(a) 5000m = (5 × 1000)m = 5km

(b) 16000m = (16 × 1000)m = 16km

(c) 7185m = (7000 + 185)m
= (7 × 1000 + 185)m
= 7km 185m

EXERCISE 9.3

1. Convert the following into millimetres (mm) :

(a) 8cm = (8 × 10)mm = 80 mm

(b) 15cm = (15 × 10)mm = 150mm

(c) 26cm = (26 × 10)mm = 260mm

(d) 9cm 15mm = (9 × 10)mm + 15 mm
= (90 + 15)mm
= 105 mm

(e) 18cm 16mm = (18 × 10)mm + 16mm
= (180 + 16)mm
= 196mm

(f) 23cm 90mm = (23 × 10)mm + 90mm
= (230 + 90)mm
= 320 mm

2. Convert the following into cm and mm :

(a) 85mm = (80 + 5)mm
= (8 × 10 + 5)mm
= 8 cm 5mm

(b) 96mm = (90 + 6) mm
= (9 × 10 + 6)mm
= 9cm + 6mm

(c) 106mm = (100 + 6)mm
= (10 × 10 + 6)mm
= 10cm 6mm

(d) 245mm = (240 + 5)mm
= (24 × 10 + 5)mm
= 24cm 5mm

(e) 418mm = (410 + 8)mm
= (41 × 10 + 8)mm
= 41cm 8mm

(f) 886mm = (880 + 6)mm
= (88 × 10 + 6)mm
= 88cm 6mm

EXERCISE 9.4

1. Add the following :

(a)

	m	cm
	1	1
	26	42
+	32	68
	59	10

(b)

	m	cm
	1	1
	92	36
+	18	49
	110	85

(c)

	m	cm
	1 1	1
	38	62
+	87	49
	126	11

(d)

	m	cm
	1 1	1
	173	28
+	49	67
	222	95

(e)

	m	cm
	1	1
	273	62
+	142	28
	415	90

(f)

	m	cm
	1 1 1	1
	379	63
+	178	48
	558	11

2. Add the following :

(a)

	km	m
		1
	21	372
+	38	162
	59	534

(b)

	km	m
	1	1
	49	138
+	37	249
	86	387

(c)

	km	m
	1	1
	63	378
+	87	419
	150	797

(d)

	km	m
	1	1 1
	162	275
+	87	196
	249	471

(e)

	km	m
	1 1	1
	378	142
+	167	285
	545	427

(f)

	km	m
	1 1	1 1
	138	379
+	287	248
	425	627

3. Add the following :

(a)

	cm	mm
	1 1	
	18	6
+	7	8
	26	4

(b)

	cm	mm
	1 1	
	27	9
+	16	5
	44	4

(c)

	cm	mm
	1	
	38	2
+	96	7
	134	9

(d)

	cm	mm
	1 1	
	34	6
+	18	7
	53	3

(e)

	cm	mm
	1	
	91	6
+	87	4
	179	0

(f)

	cm	mm
	1	
	49	2
+	32	6
	81	8

EXERCISE 9.5

1. Subtract the following :

(a)

	m	cm
	7	10 15
	28	~~15~~
−	16	26
	11	89

(b)

	m	cm
	48	72
−	31	32
	17	40

(c)

	m	cm
	3	14 10
	54	~~5~~0
−	30	68
	23	82

(d)

	m	cm
	4 13 9	13 12
	~~5~~40	42
−	462	68
	077	74

(e)

	m	cm
	6	14 16
	417	~~5~~6
−	316	78
	100	78

(f)

	m	cm
	5 14 14	4 14
	~~6~~54	54
−	376	26
	278	28

2. Subtract the following :

(a)

	km	m
	6 16	
	~~7~~6	280
−	68	140
	08	140

(b)

	km	m
	7 13	10 10
	84	~~1~~00
−	45	680
	38	420

(c)

	km	m
		4 10
	47	6~~5~~0
−	36	348
	11	302

(d)

	km	m
	1 12 9	11
	~~2~~30	~~1~~40
−	085	800
	144	340

(e)

	km	m
		1 15
	480	~~2~~50
−	130	180
	350	070

(f)

	km	m
	4 9 9	9 10
	~~5~~00	~~0~~00
−	385	250
	114	750

3. Subtract the following :

(a)

	cm	mm
	25	8
−	13	6
	12	2

(b)

	cm	mm
	7	16
	1~~8~~	~~6~~
−	6	8
	11	8

(c)

	cm	mm
	2 12	
	~~3~~2	9
−	18	6
	14	3

(d)

	cm	mm
	3 14	10
	~~4~~5	~~0~~
−	18	9
	26	1

(e)

	cm	mm
	4 9	10
	~~5~~0	~~0~~
−	48	6
	01	4

(f)

	cm	mm
	8 14	
	~~9~~4	7
−	85	6
	09	1

EXERCISE 8.6

1. Multiply the following :

(a)

m	cm
1 1	2
23	46
×	4
93	84

(b)

m	cm
1 3	1
42	63
×	5
213	15

(c)

m	cm
3 2	3
86	45
×	6
518	70

(d)

m	cm
5 2	3
56	34
×	8
450	72

(e)

m	cm
7 4	7
28	48
×	9
256	32

(f)

m	cm
1 2	3
92	68
×	4
370	72

2. Multiply the following :

(a)

km	m
2	1
16	231
×	4
64	924

(b)

km	m
1 1	1
25	415
×	3
76	245

(c)

km	m
4 1	4
68	318
×	5
341	590

(d)

km	m
4 2	5
46	308
×	7
324	156

(e)

km	m
5 4	7 7
56	488
×	9
508	392

(f)

km	m
3 1	2 4
74	136
×	8
593	088

EXERCISE 9.7

1. Divide the following in your notebook :

(a) $2\overline{)9\text{m } 46\text{cm}}$

9m 46cm = (9 × 100 + 46)cm
= 900 + 46
= 946

$2\overline{)946}\,473$
− 8 ↓
14
− 14 ↓
06
− 6
0

473 = (400 + 73) cm
= 4m 73cm

(b) $4\overline{)28\text{m } 20\text{cm}}$

28m 20cm = (28 × 100 + 20)cm
= (2800 + 20)cm
= 2820 cm

$4\overline{)2820}\,705$
− 28 ↓ ↓
20
− 20
0

705 cm = (700 + 5)cm
= 70m 5cm

(c) $5\overline{)23\text{m } 45\text{cm}}$

23m 45cm = (23 × 100 + 45)cm
= (2300 + 45)cm
= 2345 cm

$5\overline{)2345}\,469$
− 20 ↓
34
− 30 ↓
45
− 45
0

469 cm = (400 + 69)cm
= 4m 69cm

(d) $6\overline{)54\text{m } 06\text{cm}}$

54m 6cm = (54 × 100 + 6)cm
= (5400 + 6)cm
= 5406 cm

$6\overline{)5406}\,901$
− 54 ↓ ↓
06
− 6
0

901 cm = (900 + 1)cm
= 9m 1cm

(e) $7\overline{)84\text{m } 14\text{cm}}$

84m 14cm = (84 × 100 + 14)cm
= (8400 + 14)cm
= 8414 cm

$7\overline{)8414}\,1202$
− 7 ↓
14
− 14 ↓ ↓
14
− 14
0

1202 cm = (1200 + 2)cm
= 12m 2cm

(f) $9\overline{)64\text{m } 17\text{cm}}$

64m 17cm = (64 × 100 + 17)cm
= (6400 + 17)cm
= 6417 cm

$$\begin{array}{r|l} 9 & 6417 \\ -63\downarrow & \hline 11 & 713 \\ -9\downarrow & \\ \hline 27 & \\ -27 & \\ \hline 0 & \end{array}$$

713 cm = (700 + 13)cm
= 7m 13cm

2. Divide the following your notebook :

(a) $5\overline{)8\text{km } 650\text{m}}$

8km 650m = (8 × 1000)m + 650m
= 8650m

$$\begin{array}{r|l} 5 & 8650 \\ -5\downarrow & \hline 36 & 1730 \\ -35\downarrow & \\ \hline 15 & \\ 15 & \\ \hline 0 & \end{array}$$

1730m = (1000 + 730)m
= 1km 730m

(b) $6\overline{)6\text{km } 612\text{m}}$

6km 612m = (6 × 1000)m + 612m
= 6612m

$$\begin{array}{r|l} 6 & 6612 \\ -6\downarrow & \hline 06 & 1102 \\ -6\downarrow & \\ \hline 012 & \\ -12 & \\ \hline 0 & \end{array}$$

1102m = (1000 + 102)m
= 1km 102m

(c) $2\overline{)18\text{km } 680\text{m}}$

18km 680m = (18 × 1000)m + 680m
= 18680m

$$\begin{array}{r|l} 2 & 18680 \\ -18\downarrow & \hline 06 & 9340 \\ -6\downarrow & \\ \hline 08 & \\ -8\downarrow & \\ \hline 00 & \end{array}$$

9340m = (9000 + 340)m
= 9km 340m

(d) $4\overline{)12\text{km } 588\text{m}}$

12km 588m = (12 × 1000)m + 588m
= 12588m

$$\begin{array}{r|l} 4 & 12588 \\ -12\downarrow & \hline 05 & 3147 \\ -4\downarrow & \\ \hline 18 & \\ -16\downarrow & \\ \hline 28 & \\ -28 & \\ \hline 0 & \end{array}$$

3147m = (3000 + 147)m
= 3km 147m

(e) $3\overline{)29\text{km } 610\text{m}}$

29km 610m = (29 × 1000)m + 610m
= 29610m

$$\begin{array}{r|l} 3 & 29610 \\ -27\downarrow & \hline 26 & 9870 \\ -24\downarrow & \\ \hline 21 & \\ -21\downarrow & \\ \hline 00 & \end{array}$$

9870m = (9000 + 870)m
= 9km 870m

(f) $7\overline{)14\text{km } 210\text{m}}$

14km 210m = (14 × 1000)m + 210m
= 14210m

$$\begin{array}{r|l} 7 & 14210 \\ -14\downarrow\downarrow & \hline 021 & 2030 \\ -21\downarrow & \\ \hline 00 & \end{array}$$

2030m = (2000 + 30)m
= 2km 30m

EXERCISE 9.8

1.

		m	cm
		1 1	1
One piece of length =		08	25
Second piece of length =		12	36
Third piece of length =	+	25	48
So, Total length =		46	09

Hence, the total length of the cloth is 46m 9cm.

2.

		m	cm
		1 1	
One wire of spool =		142	18
Second wire of spool =		230	80
Third wire of spool =	+	385	60
So, Total length of wire =		758	58

Hence, total length of wire is 758m 58cm.

3. Delhi to Jaipur distance = 260km 000m

Travelling distance = 130km 450m

Total distance covered = 129km 550m

Hence, 129km 550m distance covered.

4.

		km	m
		1	1 1
Ram ran on Sunday =		08	185
Ram ran on Monday =	+	12	235
Total distance =		20	420

Hence, He run 20km 420m.

5.

		m	cm
		5 12 13	11
String fly to kite =		~~8 3 4~~	~~1~~ 6
Kite flew away =	−	285	65
So, Total string is left =		348	51

Hence, 348m 51cm string is left with Arihant.

6. Cloth for one shirt = 2m 60cm

Cloth for 8 shirts

= 2m 60cm × 8

= 20m 80cm

m	cm
4	
2	60
	× 8
20	80

Hence, 20m 80cm cloth to make 8 shirts.

7. Total distance is 6 hours

= 693km 372m

= (693 × 1000 + 372)m

= 693372m

So, distance in 1 hr

= 693372 ÷ 6

```
      115562
   6 ) 693372 (
     - 6↓
       09
     - 6↓
       33
     - 30↓
       33
     - 30↓
       37
     - 36↓
       12
     - 12
        0
```

= 115562

= (1150 + 562)m

= 1150km + 562m

= 115km 562m

Hence, distance covers in 1 hr is 115km 562m.

8. Total divide in 4 customers = 24m 36cm

= (24 × 100 + 36)cm

= 2436cm

So, divide in each customer = 2436 ÷ 4

= 69

= (6 × 10 + 9)cm

= 6m 9cm

```
   4 ) 2436 ( 69
     - 24↓
       036
     - 36
        0
```

Hence, 6m 9cm wire will each customer get.

9. Cloth need to 1 salwar suit = 5m 65cm

Total cloths need to 7 suits = 5m 65cm × 7

= 39m 55cm

④	③	
5	6	5
	×	7
3	9	5	5

Hence, 39m 55cm cloth to make 7 suits.

10. Length of rod = 52m 32cm

Rod divide into 6 pieces = 52m 32cm ÷ 6

= (52 × 100 + 32)cm

= 5232cm

So, length of each piece = 5232 ÷ 6

= 872

= (8 × 100 + 72)cm

= 8m 72cm

```
      872
   6 ) 5232 (
     - 48↓
       43
     - 42↓
       12
     - 12
        0
```

Hence, 8m 72cm length of each piece.

10. Measurement of Weight (MASS)

EXERCISE 10.1

1. Convert the following into g :

(a) 1kg = 1000g

9kg = **(9 × 1000)g = 9000g**

(b) 27kg = **(27 × 1000)g = 27000g**

(c) 32kg = **(32 × 1000)g = 32000 g**

(d) 5kg 450g = (5 × 1000)g + 450g

= **(5000 + 450)g = 5450g**

(e) 8kg 395g = (8 × 1000 + 395)g

= **(8000 + 395)g = 8395g**

(f) 12kg 840g = (12 × 1000 + 840)g

= **(12000 + 840)g = 12840g**

2. Convert the following into kg :

(a) 1000g = 1kg = (3000 + 450)g

= **(3 × 1000 + 450)g**

= **3kg 450g**

(b) 5789g = (5000 + 789)g

= **(5 × 1000 + 789)g**

= **5kg 789g**

(c) 7180g = (7000 + 180)g

= **(7 × 1000 + 180)g**

= **7kg 180g**

(d) 6750g = (6000 + 750)g

= **(6 × 1000 + 750)g**

= **6kg 750g**

(e) 18085g = (18000 + 85)g

= **(18 × 1000 + 85)g**

= **18kg 85g**

(f) 22450g = (22000 + 450)g

= **(22 × 1000 + 450)g**

= **22kg 450g**

EXERCISE 10.2

1. Convert the following into mg :

(a) 1g = 1000mg

12g = **(12 × 1000)mg = 12000mg**

(b) 37g = **(37 × 1000)mg = 37000mg**

(c) 85g = **(85 × 1000)mg = 85000mg**

(d) 8g 27mg = (8 × 1000 + 27)mg

= **(8000 + 27)mg**

= **8027mg**

(e) 23g 148mg = (23 × 1000 + 148)mg

= **(23000 + 148)mg**

= **23148mg**

(f) 46g 379mg = **(46 × 1000 + 379)mg**

= **46379mg**

2. Convert the following into g and mg :

(a) 3725mg = (3000 + 725)mg

= **(3 × 1000 + 725)mg**

= **3g 725mg**

(b) 4196mg = (4000 + 196)mg

= **(4 × 1000 + 196)mg**

= **4g 196mg**

(c) 6782mg = (6000 + 782)mg

= **(6 × 1000 + 782)mg**

= **6g 782mg**

(d) 14670mg = (14000 + 670)mg

= **(14 × 1000 + 670)mg**

= **14g 670mg**

(e) 28790mg = (28000 + 790)mg

= **(28 × 1000 + 790)mg**

= **28g 790mg**

(f) 78563mg = (78000 + 563)mg

= **(78 × 1000 + 563)mg**

= **78g 563mg**

EXERCISE 10.3

1. Add the following :

(a)

	kg	g
	1	1 1
	46	285
+	36	645
	82	930

(b)

	kg	g
	1	1 1
	65	349
+	26	184
	91	533

(c)

	kg	g
	1	1
	48	564
+	23	275
	71	839

(d)

	kg	g
	1	1 1
	128	346
+	249	168
	377	514

(e)

	kg	g
	1 1	1
	248	167
+	396	252
	644	419

(f)

	kg	g
	1 1 1	1 1
	456	342
+	589	678
	1046	020

2. Add the following :

(a)

	g	mg
	37	452
+	28	967
	66	419

(b)

	g	mg
	14	148
+	92	643
	106	791

(c)

	g	mg
	45	342
+	67	196
	112	538

(d)

	g	mg
	142	276
+	384	609
	526	885

(e)

	g	mg
	412	372
+	486	969
	899	341

(f)

	g	mg
	376	410
+	284	384
	660	794

EXERCISE 10.4

1. Subtract the following :

(a)

	kg	g
	72	285
−	48	180
	24	105

(b)

	kg	g
	80	380
−	58	185
	22	195

(c)

	kg	g
	52	430
−	37	513
	14	917

(d)

	kg	g
	329	504
−	289	711
	039	793

(e)

	kg	g
	288	100
−	197	348
	090	752

(f)

	kg	g
	483	128
−	216	920
	266	208

2. Subtract the following :

(a)

	g	mg
	28	116
−	14	112
	14	004

(b)

	g	mg
	60	232
−	48	118
	12	014

(c)

	g	mg
	72	840
−	49	630
	23	210

(d)

	g	mg
	417	618
−	287	468
	130	150

(e)

	g	mg
	518	340
−	326	289
	192	051

(f)

	g	mg
	635	000
−	486	375
	148	625

EXERCISE 10.5

1. Multiply the following :

(a)

kg	g
45	165
×	3
135	495

(b)

kg	g
32	325
×	5
161	625

(c)

kg	g
65	236
×	4
260	944

(d)

kg	g
155	336
×	7
1087	352

(e)

kg	g
236	628
×	6
1419	768

(f)

kg	g
415	617
×	8
3324	936

2. Multiply the following :

(a)

g	mg
25	132
×	6
150	792

(b)

g	mg
42	618
×	5
213	090

(c)

g	mg
64	318
×	4
257	272

(d)

g	mg
156	718
×	7
1097	026

(e)

g	mg
234	516
×	9
2110	644

(f)

g	mg
418	368
×	8
3346	944

EXERCISE 10.6

1. Divide the following in your notebook :

(a) $3\overline{)34\text{kg } 230\text{g}}$

1kg = 1000g

34kg 230g = (34 × 1000 + 230)g
= (34000 + 230)g
= 34230g

```
    1 1 4 1 0
  ┌──────────
3 │ 3 4 2 3 0
  - 3
  ─────
    0 4
    - 3
    ─────
      1 2
      - 1 2
      ─────
        0 3
        - 3
        ─────
          0
```

11410g = (11000 + 410)g
= 11kg 410g

(b) 6 ⟌ 26kg 520g

26kg 520g = (26 × 1000 + 520)g
= (26000 + 520)g
= 26520g

```
    4 4 2 0
  ┌──────────
6 │ 2 6 5 2 0
  - 2 4
  ─────
    2 5
    - 2 4
    ─────
      1 2
      - 1 2
      ─────
        0 0
```

4420g = (4000 + 420)g
= 4kg 420g

(c) 7 ⟌ 72kg 135g

72kg 135g = (72 × 1000 + 135)g
= (72000 + 135)g
= 72135g

```
    1 0 3 0 5
  ┌──────────
7 │ 7 2 1 3 5
  - 7
  ─────
    0 2 1
    - 2 1
    ─────
      0 3 5
      - 3 5
      ─────
        0
```

10305g = (1000 + 305)g
= 10kg 305g

(d) 5 ⟌ 405kg 380g

405kg 380g = (405 × 1000 + 380)g
= (405000 + 380)g
= 405380g

```
    8 1 0 7 6
  ┌──────────
5 │ 4 0 5 3 8 0
  - 4 0
  ─────
    0 5
    - 5
    ─────
      0 3 8
      - 3 5
      ─────
        3 0
        - 3 0
        ─────
          0
```

81076g = (81000 + 76)g
= 81kg 76g

(e) 7 ⟌ 248kg 150g

248kg 150g = (248 × 1000 + 150)g
= (248000 + 150)g
= 248150g

```
    3 5 4 5 0
  ┌──────────
7 │ 2 4 8 1 5 0
  - 2 1
  ─────
    3 8
    - 3 5
    ─────
      3 1
      - 2 8
      ─────
        3 5
        - 3 5
        ─────
          0
```

35450g = (35000 + 450)g
= 35kg 450g

(f) 9 ⟌ 270kg 450g

270kg 450g = (270 × 1000 + 450)g
= (270000 + 450)g
= 270450g

```
    3 0 5 0
  ┌──────────
9 │ 2 7 0 4 5 0
  - 2 7
  ─────
    0 0 4 5
      - 4 5
      ─────
        0
```

3050g = (3000 + 50)g
= 30kg 50g

2. Divide the following in your notebook :

(a) 4 ⟌ 56g 240mg

56g 240mg = (56 × 1000 + 240)mg
= (56000 + 240)mg
= 56240mg

```
    1 4 6 0
  ┌──────────
4 │ 5 6 2 4 0
  - 4
  ─────
    1 6
    - 1 6
    ─────
      2 4
      - 2 4
      ─────
        0
```

1460mg = (1400 + 60)mg
= 14g 60mg

(b) 5 ⟌ 43g 135mg

43g 135mg = (43 × 1000 + 135)mg
= (43000 + 135)mg
= 43135mg

```
    8 6 2 7
  ┌──────────
5 │ 4 3 1 3 5
  - 4 0
  ─────
    3 1
    - 3 0
    ─────
      1 3
      - 1 0
      ─────
        3 5
        - 3 5
        ─────
          0
```

8627mg = (8000 + 627)mg
= 8g 627mg

(c) $6\overline{)14g\ 520mg}$

14g 520mg = (14 × 1000 + 520)mg

2420 = (14000 + 520)mg

$6\overline{)14520}$ = 14520mg

$-12\downarrow$

25

$-24\downarrow$

12 2420mg = (2000 + 420)mg

-12 = 2g 420mg

0

(d) $7\overline{)342g\ 370mg}$

342g 370mg = (342 × 1000 + 370)mg

48910 = (342000 + 370)mg

$7\overline{)342370}$ = 342370mg

$-28\downarrow$

62

$-56\downarrow$

63

$-63\downarrow$

07 48910mg = (48000 + 910)mg

-7 = 48g 910mg

0

(e) $9\overline{)523g\ 521mg}$

523g 521mg = (523 × 1000 + 521)mg

58169 = (523000 + 521)mg

$9\overline{)523521}$ = 523521mg

$-45\downarrow$

73

$-72\downarrow$

15

$-9\downarrow$

62 58169mg = (58000 + 169)mg

$-54\downarrow$ = 58g 169mg

81

-81

0

(f) $8\overline{)132g\ 800mg}$

132g 800mg = (132 × 1000 + 800)mg

16600 = (132000 + 800)mg

$8\overline{)132800}$ = 132800mg

$-8\downarrow$

52

$-48\downarrow$

48 16600mg = (16000 + 600)mg

-48 = 16g 600mg

0

EXERCISE 10.7

1. Weight of 1 apple basket = 18kg 345g

Weight of 2 apples basket = 36kg 140g

	kg	g
	18	345
+	36	140
	54	485

So, Total Weight of basket is 54kg 485g.

2. Lady bought potatoes = 3kg 500g

Lady bought carrots = 2kg 150g

Lady bought tomatoes = 1kg 650g

	kg	g
	3	500
	2	150
+	1	650
	7	300

Total weight of them = 7kg 300g

So, she bought total 7kg 300g vegetables.

3. Total weight of books in a box = 50kg 650g

Weight of empty box = 5kg 880g

	kg	g
	50	650
−	05	880
	44	770

So, weight of books = 44kg 770g

Total weight of books is 44kg 770g.

4. Divya bought flour of wheat = 10kg 000g

Divya used flour of wheat = 3kg 450g

	kg	g
		9 10
	10	000
−	03	450
	06	550

Total flours is left with her = 6kg 550g

So, 6kg 550g flour is left with her.

5. Weight of 1 wood log = 15kg 130g

Weight of 8 wood logs = 15kg 130g × 8 = 121kg 40g

kg	g
4 1	2
15	130
	×8
121	040

So, weight of 8 wood logs is 121kg 40g.

6. Weight of 1 chocolates box = 2kg 580g

Weight of 5 chocolates boxes

kg	g
2	4
2	580
	×5
12	900

= 2kg 580g × 5

= 12kg 900g

So, weight of 5 chocolates is 12kg 900g.

7. Weight of 9 iron rods = 24kg 660g

Weight of 1 iron rod = 24kg 660g ÷ 9

= (24 × 1000 + 660)g

= 24660g

So, 24660g ÷ 9 = 2740g

= (2000 + 740)g

= 2kg 740g

```
  2740
9)24660
 -18
  66
 -63
   36
  -36
    0
```

So, weight of 1 iron rod is 2kg 740g.

8. 5 people get rice = 7kg 850g

Each person get rice = 7kg 850g ÷ 5

= (7 × 1000 + 850)g

= 7850g

7850 ÷ 5 = 1570g

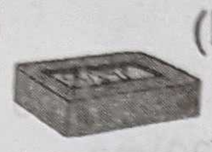
= (1000 + 570)g

= 1kg 570g

```
  1570
5)7850
 -5
  28
 -25
   35
  -35
    0
```

Comulative Revision - III

1. Name the shapes of the given objects :

(a)  Cuboid

(b)  Cube

(c)  Cone

(d)  Cylinder

2. (a) Perimeter of Δ ABC

= AB + BC + CA

= (4 + 7 + 6)

= 17 cm

(b) Perimeter of rectangle

PQRS = PQ + QR + RS +PS

= (6 + 4 + 6 + 4)cm

= (10 + 10)

= 20 cm

3. (a) 500 cm + 14 cm = (5 × 100)cm + 14cm

= 5m + 14 cm

= 5m 14cm

(b) 800 cm + 16cm = (8 × 100) cm + 16 cm

= 8m + 16 cm

= 8 m 16 cm

(c) 700 cm + 88 cm = (7 × 100)cm + 88cm

= 7m + 88cm

= 7m 88cm

4. (a) 1g = 1000 mg

12 g = (12 × 1000) mg

= 12000 mg

(b) 1g = 1000 mg

37 g = (37 × 1000)mg

= 37000 mg

(c) 1g = 1000 mg

85g = (85 × 1000)mg

= 85000 mg

5. Total distance is 6 hours = 693 km 372m

= (693 × 1000 + 372)m

= 693372 m

So, distance in 1 hr

= 693372 ÷ 6

= 115562

= (1150 + 562)m

= 1150 km + 562 m

= 115 km 562 m

```
      1 1 5 5 6 2
   ┌──────────────
6 ) 6 9 3 3 7 2
  - 6 ↓
  ─────
    9
  - 6 ↓
  ─────
    3 3
  - 3 0 ↓
  ─────
      3 3
    - 3 0 ↓
    ─────
        3 7
      - 3 6 ↓
      ─────
        1 2
        1 2
        ───
          0
```

Hence, distance covers in 1 hr is 115 km 562m.

6. Weight of 1 apple basket = 18 kg 345 g
   Weight of 2 apples basket = 36 kg 140 g
   So, Total weight of basket is 5kg 485g.

g	mg
18	345
+36	140
54	485

11. Measurement of Capacity

EXERCISE 11.1

1. Convert the following into milliliters :
   (a) 1l = 1000 ml
   8l = **(8 × 1000)ml**
   = 8000 ml
   (b) 14l = (14 × 1000)ml = **14000ml**
   (c) 27l = (27 × 1000)ml = **27000ml**
   (d) 3l 415ml = **(3 × 1000 + 415)ml**
   = (3000 + 415)ml = 3415ml
   (e) 6l 850ml = (6 × 1000 + 850)ml
   = (6000 + 850)ml = 6850ml
   (f) 18l 135ml = (18 × 1000 + 135)ml
   = (18000 + 135)ml = 18135ml
2. Convert the following into liters and milliliters
   (a) 6156 ml = (6000 + 156)ml
   = (6 × 1000 + 156)ml = 6l 156ml
   (b) 7815 ml = (7000 + 815)ml
   = (7 × 1000 + 815)ml = 7l 815ml
   (c) 9650ml = (9000 + 650)ml
   = (9 × 1000 + 650)ml = 9l 650ml
   (d) 18563ml = (18000 + 563)ml
   = (18 × 1000 + 563)ml = 18l 563ml
   (e) 29645ml = (29000 + 645)ml
   = (29 × 1000 + 645)ml = 29l 645ml
   (f) 35136ml = (35000 + 136)ml
   = (35 × 1000 + 136)ml = 35l 136ml

EXERCISE 11.2

1. Add the following :

(a)

	l	ml
	1	1
	7	326
+	4	218
	11	544

(b)

	l	ml
		1 1
	8	519
+	5	382
	13	901

(c)

	l	ml
	1	1
	6	245
+	3	916
	10	161

(d)

	l	ml
	1	1
	32	518
+	48	369
	80	887

(e)

	l	ml
	1	1 1
	43	615
+	59	285
	102	900

(f)

	l	ml
	1 1	1
	62	319
+	37	816
	100	135

2. Add the following :

(a)

	l	ml
	1 1	1
	216	315
+	285	619
	501	934

(b)

	l	ml
	1 1	1
	314	418
+	296	318
	610	736

(c)

	l	ml
	1	1
	415	218
+	629	615
	1044	833

(d)

	l	ml
	1 1	2 2
	316	286
	116	136
+	285	279
	717	701

(e)

	l	ml
	1 1	1 2
	152	146
	78	379
+	69	418
	299	943

(f)

	l	ml
	1 1 1	1 2
	417	816
	286	285
+	315	319
	1019	420

EXERCISE 11.3

1. Subtract the following :

(a)

	l	ml
	3 12	
	42	215
−	18	114
	24	101

(b)

	l	ml
	52	318
−	41	216
	11	102

(c)

	l	ml
	5 9	10 10
	60	100
−	48	210
	11	890

(d)

	l	ml
	1	10 11 14
	452	124
−	341	667
	110	457

(e)

	l	ml
	6 11	11 11
	572	218
−	236	786
	335	432

(f)

	l	ml
	5 17	2 10 14
	678	314
−	298	216
	380	098

(g)

	l	ml
	4 10	13 3 12
	551	442
−	219	628
	331	714

(h)

	l	ml
	878	465
−	553	432
	325	033

(i)

	l	ml
	8 11	6 11
	916	718
−	685	326
	231	392

EXERCISE 11.4

1. Multiply the following :

(a)

l	ml
	2
7	216
×	4
28	864

(b)

l	ml
3	1 4
5	617
×	6
33	702

(c)

l	ml
3	1
9	630
×	5
48	150

(d)

l	ml
4 1	3 6
25	138
×	8
201	104

(e)

l	ml
4 1	□ 3
38	215
×	6
229	290

(f)

l	ml
4 2	1 3
45	314
×	9
407	826

(g)

l	ml
2 1	2 4
24	238
×	6
145	428

(h)

l	ml
3	1 2
28	225
×	4
112	900

(i)

l	ml
1	1 3
40	214
×	8
321	712

EXERCISE 11.5

1. Divide the following in your notebook :

(a) $4\overline{)8\text{l } 100\text{ml}}$

= (8 × 1000 + 100)ml

= (8000 + 100)ml

= 8100ml

$$\begin{array}{r} 2025 \\ 4\overline{)8100} \\ -8\downarrow\downarrow \\ \hline 010 \\ -8\downarrow \\ \hline 20 \\ -20 \\ \hline 0 \end{array}$$

2025ml = (2000 + 25)ml

= 2l 25ml

(b) $5\overline{)9\text{l } 115\text{ml}}$

= (9 × 1000 + 115)ml

= (9000 + 115)ml

= 9115ml

$$\begin{array}{r} 1823 \\ 5\overline{)9115} \\ -5\downarrow \\ \hline 41 \\ -40\downarrow \\ \hline 11 \\ -10\downarrow \\ \hline 15 \\ -15 \\ \hline 0 \end{array}$$

1823ml = (1000 + 823)ml

= 1l 823ml

(c) $8\overline{)8l\ 240ml}$

= (8 × 1000 + 240)ml

= (8000 + 240)ml

= 8240ml

$$\begin{array}{r} 1030 \\ 8\overline{)8240} \\ -8\downarrow\downarrow \\ \hline 024 \\ -24\downarrow \\ \hline 00 \\ \hline \end{array}$$

1030ml = (1000 + 30)ml

= 1l 30ml

(d) $6\overline{)8l\ 112ml}$

= (8 × 1000 + 112)ml

= (8000 + 112)ml

= 8112ml

$$\begin{array}{r} 1352 \\ 6\overline{)8112} \\ -6\downarrow \\ \hline 21 \\ -18\downarrow \\ \hline 31 \\ -30\downarrow \\ \hline 12 \\ -12 \\ \hline 0 \\ \hline \end{array}$$

1352ml = (1000 + 352)ml

= 1l 352ml

(e) $3\overline{)7l\ 155ml}$

= (7 × 1000 + 155)ml

= (7000 + 155)ml

= 7155ml

$$\begin{array}{r} 2385 \\ 3\overline{)7155} \\ -6\downarrow \\ \hline 11 \\ -9\downarrow \\ \hline 25 \\ -24\downarrow \\ \hline 15 \\ -15 \\ \hline 0 \\ \hline \end{array}$$

2385ml = (2000 + 385)ml

= 2l 385ml

(f) $7\overline{)5l\ 810ml}$

= (5 × 1000 + 810)ml

= (5000 + 810)ml

= 5810ml

= 8l 30ml = (800 + 30) ml

$$\begin{array}{r} 830 \\ 7\overline{)5810} \\ -56\downarrow \\ \hline 21 \\ -21 \\ \hline 0 \\ \hline \end{array}$$

= 8 l 30ml

2. Divide the following in your notebook :

(a) $3\overline{)138l\ 192ml}$

= (138 × 1000 + 192)ml

= (138000 + 192)ml

= 138192ml

$$\begin{array}{r} 46064 \\ 3\overline{)138192} \\ -12\downarrow \\ \hline 18 \\ -18\downarrow \\ \hline 019 \\ -18\downarrow \\ \hline 12 \\ -12 \\ \hline 0 \\ \hline \end{array}$$

46064ml = (4600 + 64)ml

= 46l 64ml

(b) $7\overline{)147l\ 210ml}$

= (147 × 1000 + 210)ml

= (147000 + 210)ml

= 147210ml

$$\begin{array}{r} 21030 \\ 7\overline{)147210} \\ -14\downarrow \\ \hline 07 \\ -7\downarrow \\ \hline 021 \\ -21\downarrow \\ \hline 00 \\ \hline \end{array}$$

21030ml = (21000 + 30)ml

= 21l 30ml

(c) $5\overline{)241l\ 145ml}$

= (241 × 1000 + 145)ml

= (241000 + 145)ml

= 241145ml

$$\begin{array}{r} 48229 \\ 5\overline{)241145} \\ -20\downarrow \\ \hline 41 \\ -40\downarrow \\ \hline 11 \\ -10\downarrow \\ \hline 14 \\ -10\downarrow \\ \hline 45 \\ -45 \\ \hline 0 \\ \hline \end{array}$$

48229ml = (48000 + 229)ml

= 48l 229ml

(d) $6\overline{)78l\ 630ml}$

= (78 × 1000 + 630)ml

= (78000 + 630)ml

= 78630ml

$$\begin{array}{r} 13105 \\ 6\overline{)78630} \\ -6\downarrow \\ \hline 18 \\ -18\downarrow \\ \hline 06 \\ -6\downarrow \\ \hline 030 \\ -30 \\ \hline 0 \\ \hline \end{array}$$

13105ml = (13000 + 105)ml

= 13l 105ml

(e) $8\overline{)976\text{l }320\text{ml}}$

$$\begin{array}{r} 122040 \\ 8\overline{)976320} \\ -8\downarrow \\ \hline 17 \\ -16\downarrow \\ \hline 16 \\ -16\downarrow \\ \hline 032 \\ -32 \\ \hline 0 \end{array}$$

= (976 × 1000 + 320)ml
= (976000 + 320)ml
= 976320ml

122040ml = (122000 + 40)ml
= 122l 40ml

(f) $4\overline{)415\text{l }840\text{ml}}$

$$\begin{array}{r} 103960 \\ 4\overline{)415840} \\ -4\downarrow\downarrow \\ \hline 015 \\ -12\downarrow \\ \hline 38 \\ -36\downarrow \\ \hline 24 \\ -24 \\ \hline 0 \end{array}$$

= (415 × 1000 + 840)ml
= (415000 + 840)ml
= 415840ml

103960ml = (103000 + 960)ml
= 103l 960ml

EXERCISE 11.6

1.

	l	ml
		1
One bucket water =	18	350
Second bucket water = +	21	480
Total water in both =	39	830

So, total water in both buckets in 39l 830ml.

2.

	l	ml
	1	
One container milk =	38	415
Second container milk = +	54	380
Total milk in both =	92	795

So, total milk in both container is 92l 795ml.

3. One tanker contain diesel = 480l 540ml
Second tanker contain diesel = 378l 180ml
Third tanker contain diesel = 685l 360ml

	l	ml
	2 1 1	1
	480	540
	378	180
+	685	360
	1544	080

Total diesel in all = 1544l 080ml
So, total diesel in all tankers in 1544l 80ml.

4. Total quantity of kerosene = 100l 000ml
Quantity of kerosene leak = 3l 540ml

	l	ml
	9 9	9 10
	10Ø	ØØ0
−	3	540
	96	460

Total kerosene left = 96l 460ml
So, 96l 460ml kerosene is left in the drum.

5. Total quantity of diesel = 50l 000ml
Quantity of diesel used = 38l 500ml

Total diesel is left = 11l 500ml

	l	ml
	4 9	10
	5Ø	Ø00
−	38	500
	11	500

So, 11l 500ml diesel is left in the tank.

6. Quantity of soft drink in 1 bottle = 2l 250ml
Quantity of soft drink in 8 bottles = 2l 250ml × 8
= 18l

2	250
	×8
18	000

So, 18l soft drink in 8 bottles.

7. Quantity of shampoo in 1 bottle = 1l 115ml
Quantity of shampoo in 6 bottles = 1l 115ml × 6
= 1l 690ml

l	ml
	3
1	115
	×6
6	690

So, 6l 690ml shampoo in 6 bottles.

8. Quantity of water in 5 tanks = 1250l 250ml
Quantity of water in each tank
= 1250l 250ml ÷ 5
= (1250 × 1000 + 250)ml
= 1250250 ÷ 5 = 2550ml
= (250000 + 50)ml = 250l 50ml

$$\begin{array}{r} 25050 \\ 5\overline{)1250250} \\ -10\downarrow \\ \hline 25 \\ -25 \\ \hline 00250 \\ -25 \\ \hline 0 \end{array}$$

So, capacity of each container is 250l 50ml.

9. Quantity of soup = 1l 676ml

Soup shared 4 members = 1l 676ml ÷ 4

= (1000 + 676)ml

= 1676 ÷ 4 = 419ml

$$\begin{array}{r} 419 \\ 4\overline{)1676} \\ -16\downarrow \\ \hline 07 \\ -4\downarrow \\ \hline 36 \\ -36 \\ \hline 0 \end{array}$$

= (4000 + 19)ml = 4l 19ml

So, 4l 19ml soup will each one get.

10. Quantity of milk = 80l 542ml

He gave milk 7 persons = 80l 542ml ÷ 7

= (80000 + 542)ml

= 80542 ÷ 7

= 11506 ml

$$\begin{array}{r} 11506 \\ 7\overline{)80542} \\ -7\downarrow \\ \hline 10 \\ -7\downarrow \\ \hline 35 \\ -35\downarrow \\ \hline 42 \\ 42 \\ \hline 0 \end{array}$$

= (11000 + 506)ml

= 11l 506ml

So, each person get 11l 506ml milk.

12. Money

EXERCISE 12.1

1. See in answersheet.

EXERCISE 12.2

1. Add the following :

(a)

	₹	P
		1
	36	18
+	42	28
	78	46

(b)

	₹	P
	1	
	45	13
+	28	55
	73	68

(c)

	₹	P
	1	1
	15	18
+	38	45
	53	63

(d)

	₹	P
	1 1	1
	116	18
+	285	35
	401	53

(e)

	₹	P
	1	1
	171	26
+	386	29
	557	55

(f)

	₹	P
	1 1 1	1
	455	55
+	376	95
	832	50

2. Add the following :

(a)

	₹	P
	1 1	1
	82	52
	37	41
+	86	37
	206	30

(b)

	₹	P
	2 1	1
	14	16
	28	35
+	57	85
	100	36

(c)

	₹	P
		1 1
	22	36
	36	25
+	67	42
	126	03

(d)

	₹	P
	1 1	1
	122	63
	218	45
+	625	58
	966	66

(e)

	₹	P
	1 2	2
	255	18
	149	25
+	539	39
	943	82

(f)

	₹	P
	2 1 1	1
	142	26
	263	38
+	498	45
	904	09

EXERCISE 12.3

1. Subtract the following :

(a)

	₹	P
		5 10
	78	~~6~~0
−	56	38
	22	22

(b)

	₹	P
	5 16	13
	~~6~~6	~~3~~4
−	48	62
	18	72

(c)

	₹	P
		4 10
	44	~~5~~0
−	14	18
	30	32

(d)

	₹	P
	2 13 12	
	~~3~~42	55
−	189	25
	153	30

(e)

	₹	P
	0 11 7	13 10
	128	40
−	65	65
	52	75

(f)

	₹	P
	2 13 14	14
	345	42
−	267	90
	077	52

EXERCISE 12.4

1. Multiply the following :

(a)

₹	P
2 2	1
17	84
×	3
53	52

(b)

₹	P
2	2
27	15
×	4
108	60

(c)

₹	P
4 4	3
44	54
×	9
400	86

(d)

₹	P
5 1	5
67	18
×	7
470	26

(e)

₹	P
3 4	4
54	56
×	8
436	48

(f)

₹	P
2 1	3
95	36
×	5
476	80

(g)

₹	P
4 1	4
87	28
×	6
523	68

(h)

₹	P
1	1
44	56
×	2
89	12

(i)

₹	P
3 5	3
55	96
×	6
335	76

EXERCISE 12.5

1. Divide the following your notebook :

(a) $8\overline{)₹\ 128.16}$

₹ 128.16 = (128.16 × 100)P
= 12816p
= 12816p ÷ 8
= 1602p
= (1600 + 02)P
= ₹ 16 + 02P
= ₹ 16.02

```
1602
8)12816
 -8
  48
 -48
   016
  -16
    0
```

(b) $4\overline{)₹\ 146.80}$

₹ 146.80 = (146.80 × 100)P
= 14680P
= 14680P ÷ 4
= 3670P
= (3600 + 70)P
= ₹ 36 + 70P
= ₹ 36.70

```
3670
4)14680
 -12
  26
 -24
  28
 -28
   0
```

(c) $5\overline{)₹\ 345.85}$

₹ 345.85 = (345.85 × 100)P
= 34585P
= 34585 ÷ 5
= 6917P
= (6900 + 17)P
= ₹ 69 + 17P
= ₹ 69.17

```
6917
5)34585
 -30
  45
 -45
   08
  -5
   35
  -35
    0
```

(d) $7\overline{)₹\ 143.50}$

₹ 143.50 = (143.50 × 100)P
= 14350P
= 14350 ÷ 7
= 2050P
= (2000 + 50)P
= ₹ 20 + 50P
= ₹ 20.50

```
2050
7)14350
 -14
  035
 -35
    0
```

(e) $6\overline{)₹\ 1086.12}$

₹ 1086.12 = (1086.12 × 100)P
= 108612P
= 108612 ÷ 6
= 18102P
= (18100 + 02)P
= ₹ 181 + 02P
= ₹ 181.02

```
18102
6)108612
 -6
  48
 -48
   06
  -6
   012
  -12
    0
```

(f) $9\overline{)₹\ 636.21}$

₹ 636.21 = (636.21 × 100)P

= 63621P
= 63621 ÷ 9
= 7069P
= (7000 + 69)P
= ₹ 70 + 69P
= ₹ 70.69

```
   7 0 6 9
9 ) 6 3 6 2 1
  - 6 3 ↓ ↓
      0 6 2
    - 5 4
      8 1
    - 8 1 ↓
          0
```

EXERCISE 12.6

1.

		1 1
Cost of a book =		8 6 . 9 0
Cost of a geometry box =	+	3 5 . 5 5
Total cost of both =		1 2 2 . 4 5

So, total cost of both items is ₹ 122.45.

2.

		₹	P
		1 1 2	1
Cost of a shirts =		2 4 0 .	5 0
Cost of a pants =		1 9 5 .	9 5
Cost of a pair socks =	+	4 5 .	8 5
Total cost of all =		4 8 2 .	3 0

So, total cost of all the items is ₹ 482.30.

3.

		₹	P
		4 9 9	9 10
Total money =		5 0 0 .	0 0
She bought a bedsheet =	−	3 2 4 .	6 5
Money return shopkeeper =		1 7 5 .	3 5

So, the shopkeeper return to her ₹ 175.35.

4.

		₹	P
		4	14 10
Total money =		4 5 .	5 0
Cost of a book =	−	2 4 .	8 8
Money left him =		2 0 .	6 2

So, ₹ 20.62 left with him.

5. Cost of 1 pen = ₹ 12.75
Cost of 8 pens = ₹ 12.75 × 8
= ₹ 102.00

₹	P
2 6	4
1 2 .	7 5
	× 8
1 0 2 .	0 0

So, cost of 8 pen is ₹ 102.

6. Cost of 1 kg onions = ₹ 24.75
Cost of 8 kg onions = ₹ 24.75 × 8
= ₹ 198

₹	P
3 6	4
2 4 .	7 5
	× 8
1 9 8 .	0 0

So, cost of 8 kg onions is ₹ 198.

7. Cost of one calculator = ₹ 75.80
Cost of 8 calculators = ₹ 75.80 × 8
= ₹ 606.40

₹	P
4 6	
7 5 .	8 0
	× 8
6 0 6 .	4 0

So, cost of 8 calculators is ₹ 606.40.

8. Cost of 5 pencils = ₹ 35.25
Cost of 1 pencil = ₹ 35.25 ÷ 5
₹ 35.25 = (35.25 × 100)p
= 3525p ÷ 5
= 705p
= (700 + 05)p
= ₹ 7 + 05p = ₹ 7.05

```
   7 0 5
5 ) 3 5 2 5
  - 3 5 ↓ ↓
      0 2 5
    - 2 5
        0
```

So, cost of one pencil is ₹ 7.05.

9. Cost of 4 balls = ₹ 168.80
Cost of 1 ball = ₹ 168.80 ÷ 4
₹ 168.80 = (168.80 × 100)p
= 16880 p
Now, 16880 p ÷ 4
= 4220p
= (4200 + 20)p
= ₹ 42 + 20p = ₹ 42.20

```
   4 2 2 0
4 ) 1 6 8 8 0
  - 1 6 ↓
      0 8
    - 8 ↓
      0 8
    - 8
      0
```

So, the cost of one ball is ₹ 42.20.

10. Cost of 5 bats = ₹ 625.50
Cost of 1 bat = ₹ 625.50 ÷ 5
= 62550p = 12510p
= (1250 + 10)p = ₹ 125.10
Cost of one bat is ₹ 125.10.

Comulative Revision-IV

1. Convert the following :
(a) 1 l = 1000 ml
16 l = (16 × 1000)ml = 16000 ml
(b) 1 kl = 1000 l
18 kl = (18 × 1000 + 375)l = 18375l

2. Convert the following :
(a) 1000 ml = 1l
48637 ml = (48000 + 637) ml
= (48 × 1000 + 637) ml
= 48 l 637 ml

(b) 1000 l = 1 kl

67384 = (67000 + 384) kl

= 67 × 1000 + 384 kl

= 67 kl 384 l

3. Solve the following :

(a)

	l	ml
	1 1	1
	63	576
−	28	917
	92	493

(b)

	l	ml
	3 15 5	12 16 18
	456	378
−	285	679
	170	699

4. Multiply the following :

(a)

	₹	P
	5 1	5
	67	28
	×	7
	470	96

(b)

	₹	P
	8 3 3	6
	194	37
	×	9
	1749	33

5. (a) 7) ₹ 143.50 (

₹ 143.50 = (143.50 × 100)p

= 14350 p

= 14350 ÷ 7

= 2050 p

= (2000 + 50)p

= ₹ 20 + 50 p

= ₹ 20.50

```
    2050
7 ) 14350 (
  - 14
    035
   - 35
     0
```

(b) 5) ₹ 673.85 (

₹ 673.85 = (673.85 × 100)p

= 67385

= 67385 ÷ 5

= 13477 p

= 13400 + 77

= 134 + 77

= 134.77

```
    13477
5 ) 67385 (
  - 5
    17
   - 15
     23
   - 20
      38
     - 35
       35
      - 35
        0
```

13. Time

EXERCISE 13.1

1. See in answersheet.

EXERCISE 13.2

Do it yourself.

EXERCISE 13.3

1. (a) 4 hr 23min = (4 × 60 + 23)min

= (240 + 23)min

= 263 min

(b) 6 hr 46min = (6 × 60 + 46)min

= (360 + 46)min

= 406 min

(c) 15 hr 38min = (15 × 60 + 38)min

= (900 + 38)min

= 938 min

2. (a) 6 min 32 sec = (6 × 60 + 32)sec

= (360 + 32)sec

= 392 sec

(b) 18 min 18 sec = (18 × 60 + 18)sec

= (1080 + 18)sec

= 1098 sec

(c) 32 min 46 sec = (32 × 60 + 46)sec

= (1920 + 46)sec

= 1966 sec

14. Pictorial Representation of Data

EXERCISE 14.1

1 and 2 see in answersheet.

Multiple Choice Questions (MCQs)

1. (b); **2.** (c); **3.** (d); **4.** (c); **5.** (c); **6.** (b); **7.** (a); **8.** (d); **9.** (c); **10.** (b)

Annual Examination Paper

1. (a) (ii); (b) (i); (c) (ii); (d) (iii).

2. Identify the following shapes :


Sphere


Curved


Cuboid


Cube

3. Find the perimeter of :

(a) Perimeter of triangle

= 3 cm + 6cm + 7 cm = 10 cm

(b) Perimeter of rectangle

= 8 cm + 4 cm + 8 cm + 4 cm

= 24 cm

4. Do yourself.

5. (a) 1 km = 1000m

= (81 × 1000)km + 967

= 8100 km 967 m

(b) 1kl = 1000 l

= (37 × 1000 + 243) l

= 37000 + 243 = 37243 l

6. Add the following

(a)

	m	cm
	72	36
+	18	94
	91	30

(b)

	kg	g
	45	76
+	37	85
	83	61

7. Length of the wire = 24 m 48 cm

Wire devided into 4 customers

= 24m 48cm ÷ 4

= (24 × 100 + 48)cm

= 2400 + 48 = 2448 = 612

= 6 × 100 + 12 cm

= 6m 12 cm

```
   612
8 ) 2448
   -24↓
    04
    -4↓
     08
     -8
      0
```

8. A gas filled cylinder weight = 29 kg 450g

The weight of gas = 14 kg 200 g

	kg	g
	29	450
−	14	200
	15	250

Hence weight of cylinder = 15 kg 250g

9. (a) 1 hours = 60 min

So, (4 × 60 = 56)m = 296 min

(b) 1 min = 60 sec

So, 17 × 60 + 43 = 1063 sec

10. 50 Cococola, 40 Fanta, 60 Pepsi, 30 Maza

Mental Mathematics

WORKSHEET – 1

Write the following numbers in figures and words :

2. 6018 = 6022
Six thousand twenty two

3. 5500 = 5497
Five thousand four hundred ninty seven.

4. 3890 = 3885
Three thousand eight hundred eighty five

5. 4836 = 4830
Four thousand eight hundred thirty

6. 4096 = 4106
Four thousand one hundred six

7. 8000 = 8100
Eight thousand one hundred

8. 7000 = 6900
Six thousand nine hundred

9. 8900 = 8920
Eight thousand nine hundred twenty

10. 8650 = 8680
Eight thousand six hundred eighty.

WORKSHEET – 2

Number Puzzle :

2346 − 346 = 2000	7264 ÷ 4 = 1816
58 × 2 = 116	3129 − 29 = 3100
352 × 3 = 1056	568 + 68 = 636
782 + 416 = 1198	7124 × 5 = 35620
4150 ÷ 5 = 830	8176 − 176 = 8000
120 ÷ 4 = 30	4292 ÷ 2 = 2146
6960 + 30 = 6990	5962 − 162 = 5800

Using digits 2, 0, 5, 6, 8 to write four numbers in which :

0 is in ones place are 25680, 52680, 62580, 82560.

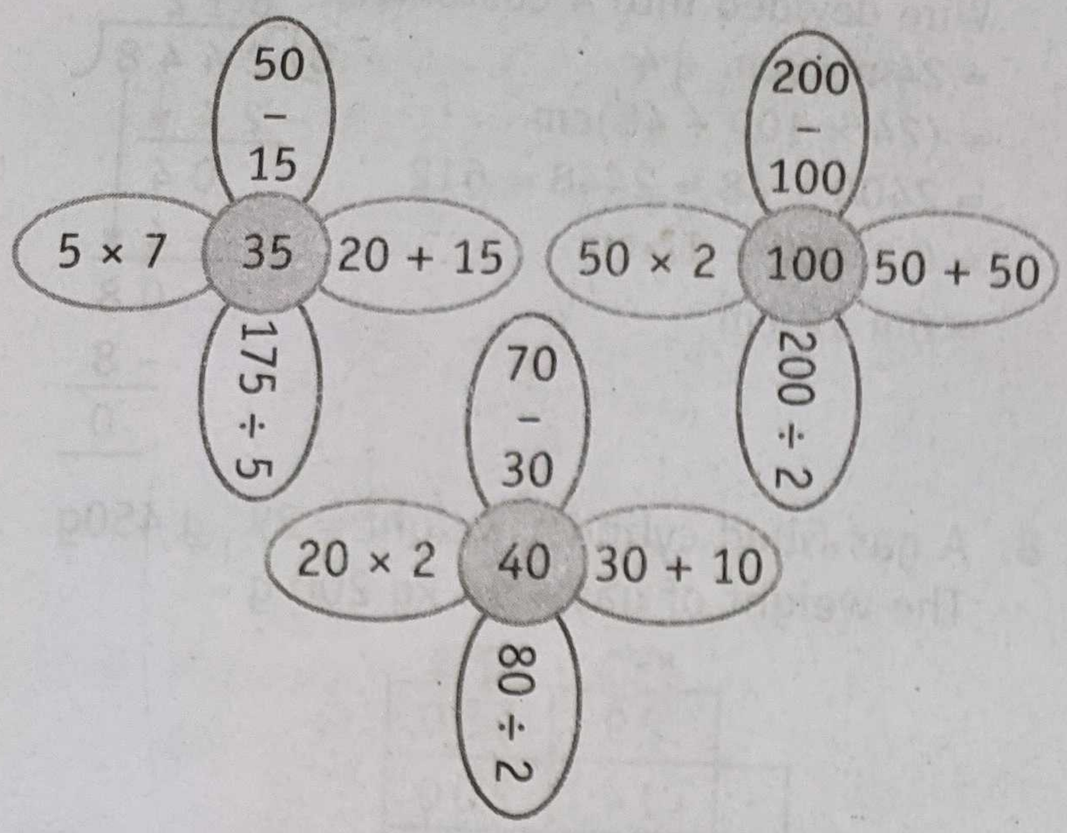
0 is in tens place are 25608, 52608, 62508, 82506

0 is in hundreds place are 25068, 52068, 62058, 82056

0 is in thousands place are 20568, 50268, 60258, 80256

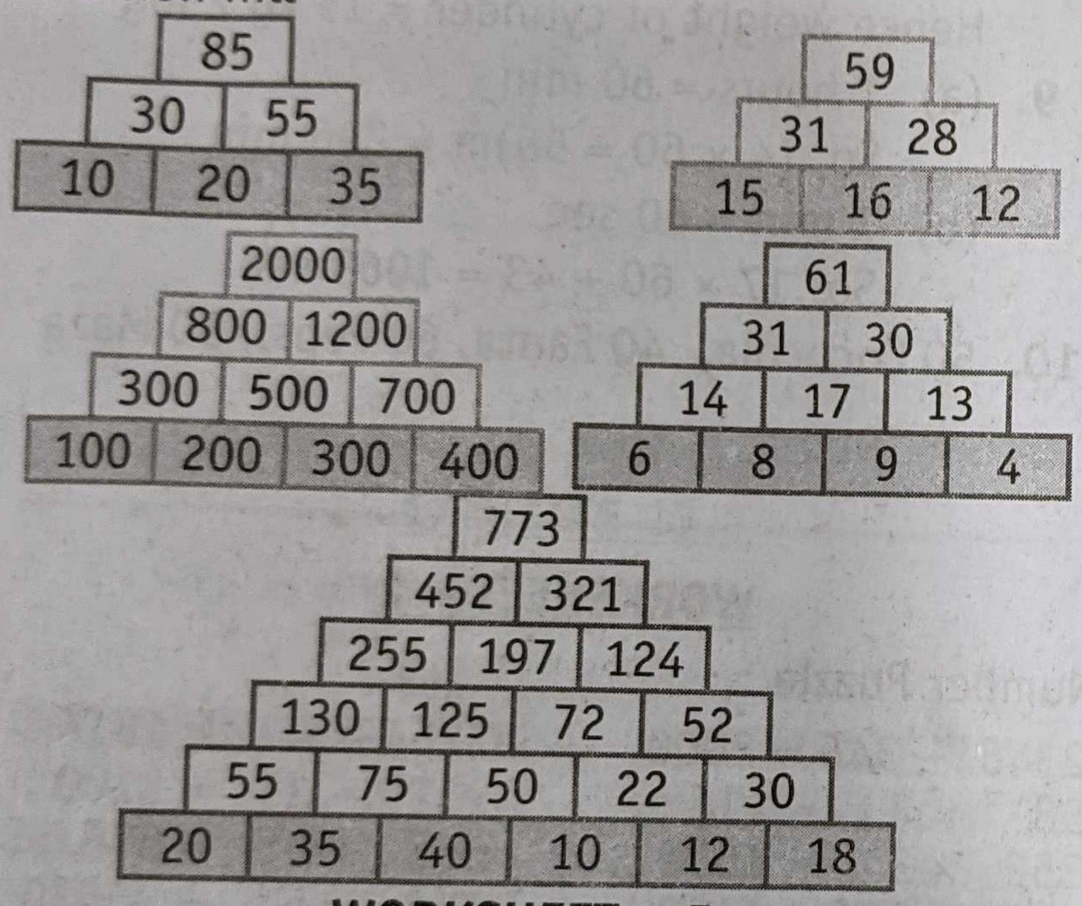
WORKSHEET – 3

Number fun :



WORKSHEET – 4

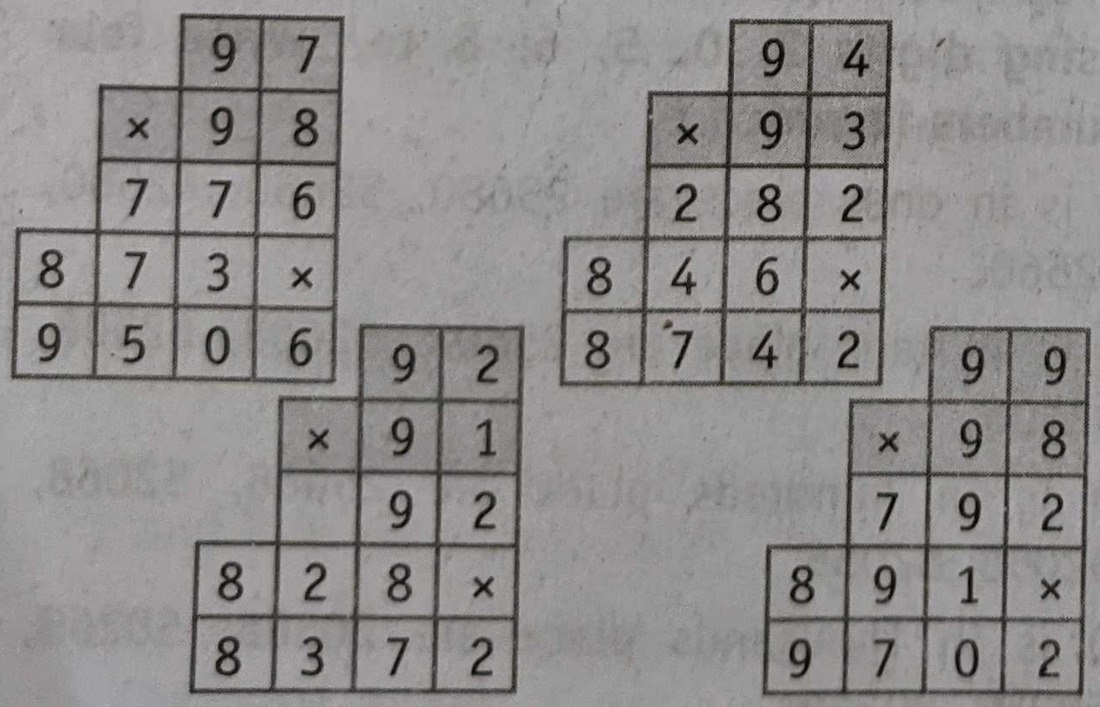
Addition hill



WORKSHEET – 5

Vedic way to multiply

Multiply the following by above rule :



WORKSHEET – 6

Fast track

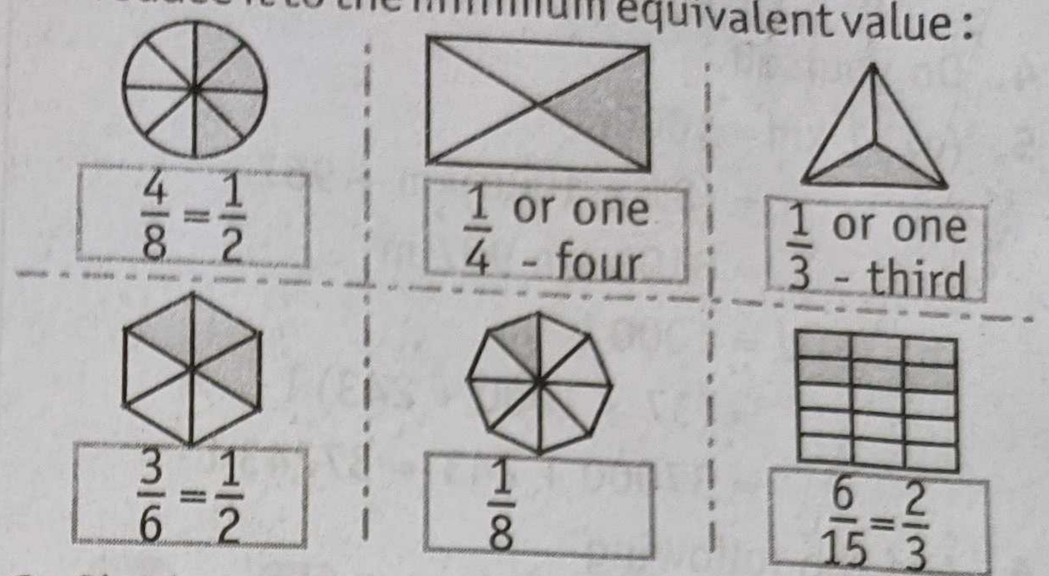
1. 150; **2.** $\frac{5}{7}$; **3.** half; **4.** 600; **5.** more than;

6. 7000; **7.** 240g; **8.** ₹ 125; **9.** ₹ 175; **10.** 40.

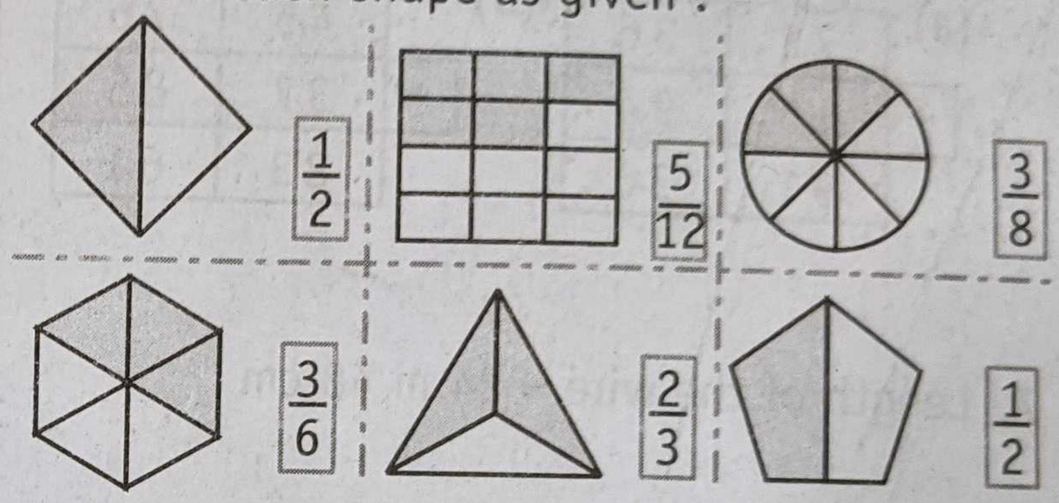
WORKSHEET – 7

Fractions

1. Write the fraction for each shaded part. Also reduce it to the minimum equivalent value :



2. Shade each shape as given :



WORKSHEET – 8

Fun with Time

Write the time in the blanks using 'am' or 'pm'

1. am; **2.** am; **3.** am; **4.** pm; **5.** am; **6.** am; **7.** pm; **8.** am, pm; **9.** am; **10.** pm.

Fill in the blanks :

1. 15; **2.** 30; **3.** 45; **4.** 60; **5.** 60; **6.** 24; **7.** half; **8.** half; **9.** quarter, 7; **10.** quarter, 5.

WORKSH.EET – 9

Word problems

1.

20
–10
10

20kg heavier

10 kg much

2. 1 + 3 + 4 = 8

3.

	l	ml
	25	315
	18	450
+	33	890
	77	655

= 77l 665ml

4.

	kg	g
	1	1
	3	500
	2	450
+	5	650
	11	600

= 11kg 600g

5.

	cm	mm
	6	00
	5	6
+	7	2
	18	8

= 18cm 8mm

Maths Mind
Part - IV

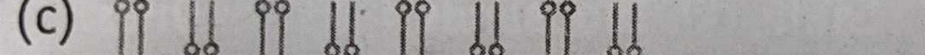
1. Patterns

EXERCISE 1.1

1. Extend to form patterns in the shape provided :

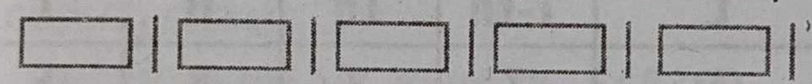
(a) OXXXOXXXOXXXOXXX (series of OXXX)

(b)  (rotations of)

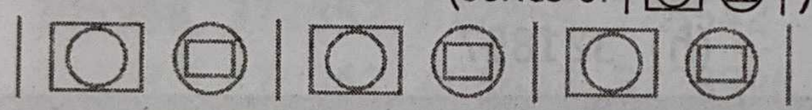
(c)  (rotations of)

(d) (series of)

2. Observe the following patterns. Draw them in your exercise book. Colour these figures to make different patterns to extend them : (series of)

(a) 

(series of)

(b) 

EXERCISE 1.2

1. Observe the following number pattern :

(a) The next number is increasing by 2.
28, 30, 32, 34

(b) The whole numbers and it multiplication with 3 is coming next.
6, 18, 7, 21

(c) The next number is decreasing by 5.
40, 35, 30, 25

(d) The next number is decreasing by 50.
700, 650, 600, 550

(e) The whole numbers and their multiplication by 10 and 1 is coming next.
3, 30, 300, 4

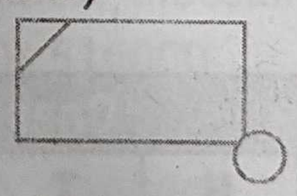
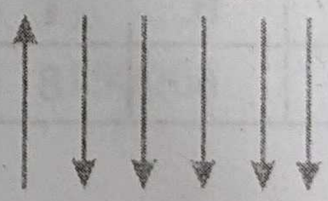
2. Fill in the blanks to complete the series :

(a) 9, 11, 13, 15 (+2)
(b) 18, 20, 22, 24 (+2)
(c) 39, 47, 55, 63 (+8)
(d) 14, 17, 20, 23 (+3)
(e) 45, 50, 55, 60 (+5)

3. Extend the patterns to complete the series :

(a) 500, 400, 300, 200 (–100)
(b) 53, 47, 41, 35 (–6)
(c) 92, 90, 88, 86 (–2)
(d) 36, 30, 23, 15 (–2, –3, –4.....)
(e) 1105, 1100, 1095, 1090 (–5)

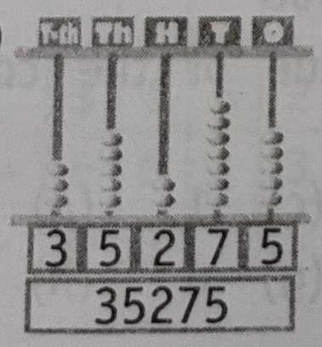
4. Extend the following series :

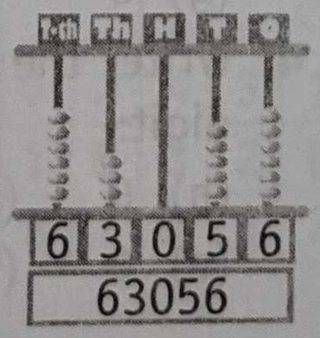
(a) 3, 33, 333 (1, 1×11, 1×111)
(b) 500, 400, 300 (–100)
(c) 48, 96, 192 (double of every number)
(d)  (rotation clock wise)
(e)  (one ↓ is increasing)

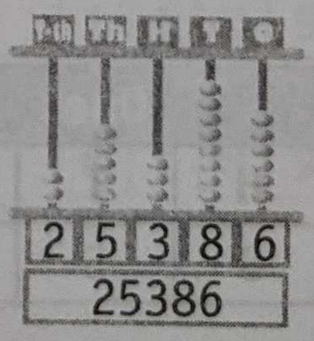
2. Numbers and Numeration

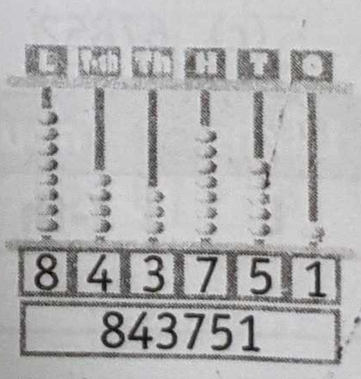
EXERCISE 2.1

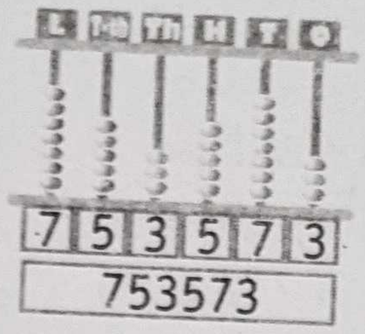
1. Write the number shown one each abacus :

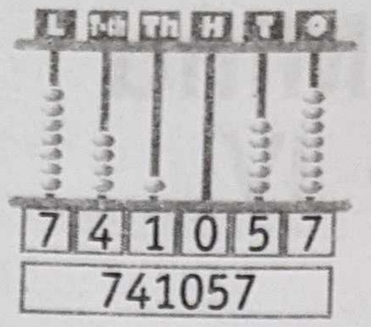
(a) 

(b) 

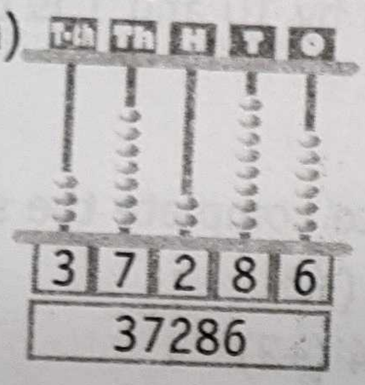
(c) 

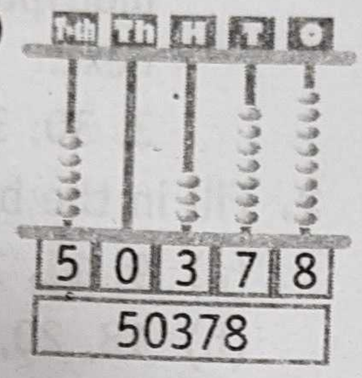
(d) 

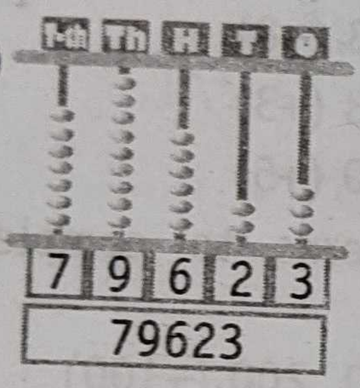
(e) 

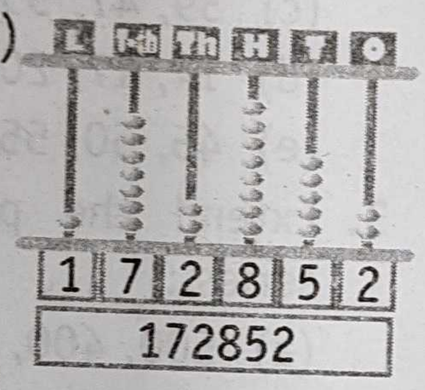
(f) 

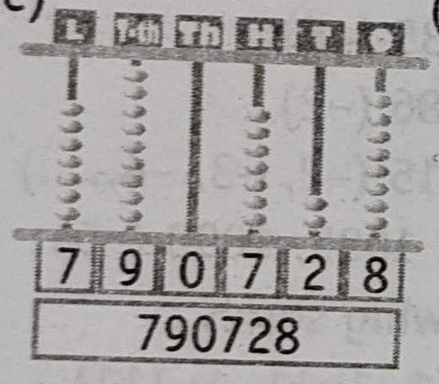
2. Draw an abacus to represent the following numbers :

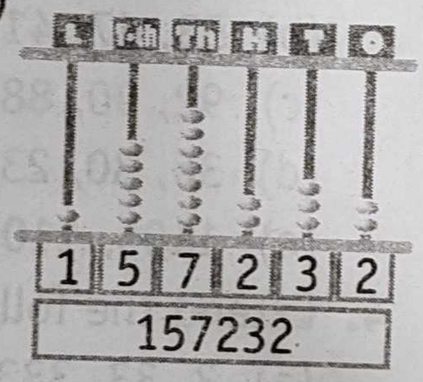
(a) 

(b) 

(c) 

(d) 

(e) 

(f) 

EXERCISE 2.2

1. Place the following numerals in the place value chart :

(a) 72682

Lakhs	Thousands		Ones		
L	T-th	Th	H	T	O
	7	2	6	8	2

(b) 98345

Lakhs	Thousands		Ones		
L	T-th	Th	H	T	O
	9	8	3	4	5

(c) 67852

Lakhs	Thousands		Ones		
L	T-th	Th	H	T	O
	6	7	8	5	2

(d) 30796

Lakhs	Thousands		Ones		
L	T-th	Th	H	T	O
	3	0	7	9	6

(e) 378856

Lakhs	Thousands		Ones		
L	T-th	Th	H	T	O
3	7	8	8	5	6

(f) 278039

Lakhs	Thousands		Ones		
L	T-th	Th	H	T	O
2	7	8	0	3	9

(g) 172856

Lakhs	Thousands		Ones		
L	T-th	Th	H	T	O
1	7	2	8	5	6

(h) 321857

Lakhs	Thousands		Ones		
L	T-th	Th	H	T	O
3	2	1	8	5	7

2. Write the number names of the following :

(a) Seventy two thousand three hundred ninety six

(b) Fifty one thousand two hundred eighty five

(c) Six lakh nine thousand seven hundred twenty five

(d) Seven lakh twelve thousand eight hundred fifty six

3. Write the place value of the coloured digit :

(a) 80 (b) 3 (c) 70000

(d) 30 (e) 10000 (f) 200

(g) 0 (h) 300

4. Write the face value of the coloured digit:

(a) 0 (b) 2 (c) 1 (d) 5

(e) 6 (f) 1 (g) 6 (h) 9

5. Write the expanded form of the following numerals :

(a) 700000 + 20000 + 8000 + 500 + 90

(b) 300000+70000+2000 +800+50+6

(c) 700000+20000+3000+600+50+4

(d) 900000 + 7000 + 200 + 80 + 5

6. Write in short form

(a) 76389 (b) 60856 (c) 397609

(d) 768346.

EXERCISE 2.3

1. Fill in the boxes with '<', '>' or '=' :

(a) > (b) < (c) < (d) >

(e) < (f) < (g) < (h) =

2. Which number is greater ?

(a) 726459 (b) 406285 (c) 405936

(d) 103962 (e) 718396 (f) 633854

(g) 816431 (h) 672853

3. Arrange the following numbers in ascending order :

(a) 76328, 325462, 459628, 548369

(b) 305968, 372852, 672859, 728542

(c) 103285, 270962, 405632, 5128596

(d) 67285, 67859, 108596, 372895

4. Arrange the following numbers in descending order :

(a) 916285, 672854, 428543, 307965

(b) 728596, 482543, 428376, 403891

(c) 9028532, 914285, 452863, 86325

(d) 572856, 285632, 196285, 48296

5. Write the successor of the following numbers :

(a) 41289 + 1 = 41290

(b) 613285 + 1 = 613286

(c) 916283 + 1 = 916284

(d) 408152 + 1 = 408153

(e) 678939 + 1 = 678940

(f) 418637 + 1 = 418638

(g) 712310 + 1 = 712311

(h) 562863 + 1 = 562864

6. Write the predecessor of the following

(a) 71896 – 1 = 71895

(b) 814328 – 1 = 814327

(c) 49635 – 1 = 49634

(d) 90850 – 1 = 90849

(e) 372856 – 1 = 372855

(f) 516834 – 1 = 516833

(g) 418900 – 1 = 418899

(h) 378506 – 1 = 378505

EXERCISE 2.4

1. Round off the following numbers to the nearest ten :

(a) 41290 (b) 916320 (c) 819640

(d) 412860 (e) 913250 (f) 316430

(g) 515630 (h) 192860

2. Round off the following numbers to the nearest hundred :

(a) 317800 (b) 617900 (c) 213800

(d) 716300 (e) 406300 (f) 917600

(g) 413800 (h) 672800

3. Round off the following numbers to the nearest thousand :

(a) 516000 (b) 917000

(c) 318000 (d) 7127000

(e) 3165000 (f) 320000

(g) 815000 (h) 918000

3. Addition

EXERCISE 3.1

1. Add the following :

(a)

	T-th	Th	H	T	O
	3	1	6	2	9
+	5	8	1	3	0
	8	9	7	5	9

(b)

	T-th	Th	H	T	O
	7	2	4	3	1
+	1	5	3	2	6
	8	7	7	5	7

(c)

	T-th	Th	H	T	O
	1	6	2	9	0
+	7	1	6	0	8
	8	7	8	9	8

(d)

	T-th	Th	H	T	
	2	1	8	6	7
+	3	5	1	2	2
	5	6	9	8	9

(e)

	T-th	Th	H	T	O
	7	6	3	2	4
+	2	3	2	5	4
	9	9	5	7	8

(f)

	T-th	Th	H	T	O
	3	6	2	9	0
+	2	1	6	0	8
	5	7	8	9	8

(g)

	T-th	Th	H	T	O
	3	2	5	7	2
+	5	7	2	1	6
	8	9	7	8	8

(h)

	T-th	Th	H	T	O
	5	2	6	1	7
+	3	7	2	7	1
	8	9	8	8	8

(i)

	T-th	Th	H	T	O
	1	6	2	1	5
+	7	1	5	2	4
	8	7	7	3	9

2. Add the following :

(a)

	L	T-th	Th	H	T	O
	4	2	1	6	2	1
+	3	5	6	1	3	7
	7	7	7	7	5	8

(b)

	L	T-th	Th	H	T	O
	7	2	1	3	2	4
+	1	7	8	1	6	3
	8	9	9	4	8	7

(c)

	L	T-th	Th	H	T	O
	5	6	2	3	2	5
+	2	1	5	2	4	3
	7	7	7	5	6	8

(d)

	L	T-th	Th	H	T	O
	3	2	1	6	2	5
+	5	6	7	1	3	4
	8	8	8	7	5	9

(e)

	L	T-th	Th	H	T	O
	2	2	3	4	5	2
+	6	5	3	2	4	3
	8	7	6	6	9	5

(f)

	L	T-th	Th	H	T	O
	5	1	6	2	1	8
+	3	7	1	7	6	1
	8	8	7	9	7	9

(g)

	L	T-th	Th	H	T	O
	3	2	1	6	2	0
	2	5	2	1	6	7
+	2	1	4	1	0	1
	7	8	7	8	8	8

(h)

	L	T-th	Th	H	T	O
	4	2	1	6	3	1
	1	2	3	1	2	3
+	2	5	5	1	4	4
	7	9	9	8	9	8

(i)

	L	T-th	Th	H	T	O
	2	4	3	1	2	1
	3	3	5	6	4	6
+	2	1	1	2	1	1
	7	8	9	9	7	8

EXERCISE 3.2

1. Add the following :

(a)

	T-th	Th	H	T	O
	①	①	①	①	
	2	7	9	6	5
+	3	8	7	8	9
	6	6	7	5	4

(b)

	T-th	Th	H	T	O
	①	①	①	①	
	6	2	8	5	9
+	1	9	6	7	8
	8	2	5	3	7

(c)

	T-th	Th	H	T	O
	①	①		①	
	5	4	3	2	9
+	9	6	7	2	8
	15	1	0	5	7

(d)

	T-th	Th	H	T	O
	①	①	①	①	
	8	7	6	9	6
+	3	8	7	8	5
	12	6	4	8	1

(e)

	T-th	Th	H	T	O
		①	①	①	
	2	4	9	7	9
+	8	1	6	8	5
	10	6	6	6	4

(f)

	T-th	Th	H	T	O
	①	①	①	①	
	8	7	6	5	4
+	3	7	8	5	9
	12	5	5	1	3

2. Add the following :

(a)

	L	T-th	Th	H	T	O
	①	①	①	①	①	
	2	7	9	6	3	5
+	8	4	6	7	8	9
	11	2	6	4	2	4

(b)

	L	T-th	Th	H	T	O
	①	①	①	①	①	
	4	7	8	2	5	6
+	9	2	8	7	8	8
	14	0	7	0	4	4

(c)

	L	T-th	Th	H	T	O
	①	①	①	①	①	
	7	1	2	8	5	6
+	9	8	7	6	5	4
	17	0	0	5	1	0

(d)

	L	T-th	Th	H	T	O
	①	①	①	①	①	
	9	3	7	6	4	5
+	7	8	9	7	8	9
	17	2	7	4	3	4

(e)

	L	T-th	Th	H	T	O
	①	①	①	①		
	3	7	8	5	9	6
+	6	7	8	5	9	3
	10	5	7	1	8	9

(f)

	L	T-th	Th	H	T	O
	①	①	①	①		
	4	5	8	7	6	4
+	3	8	9	7	8	5
	8	4	5	8	4	9

3. Arrange the following in column and add :

(a)

	L	T-th	Th	H	T	O
	①	②	①	②	①	
	4	2	8	5	6	3
	1	4	9	6	7	8
+	5	9	6	3	8	4
	11	7	4	6	2	5

(b)

	L	T-th	Th	H	T	O
	②	①	①	①	①	
	1	8	4	5	3	2
	7	9	6	3	2	8
+	6	7	8	5	4	3
	16	5	9	4	0	3

(c)

	L	T-th	Th	H	T	O
	①	②	①	①	①	
	4	1	6	8	7	9
	6	7	8	3	4	2
+	4	3	9	7	5	4
	15	3	4	9	8	5

(d)

	L	T-th	Th	H	T	O
	①	①	②	②	①	
	3	7	8	9	6	7
	3	0	0	6	7	2
+	7	2	8	5	9	6
	14	0	8	2	3	5

(e)

	L	T-th	Th	H	T	O
	②	②	②	②	②	
	1	4	8	3	7	9
	5	7	9	6	3	2
	4	5	6	8	3	7
+	6	7	2	8	5	9
	18	5	7	7	0	7

(f)

	L	T-th	Th	H	T	O
	②	②	②	②	②	
	3	7	8	2	6	7
	1	7	9	6	3	8
	5	4	3	7	6	1
+	9	7	2	8	5	6
	20	7	4	5	2	2

(g)

	L	T-th	Th	H	T	O
	①	②	②	②	②	
	1	3	8	9	7	6
	7	2	8	5	6	7
	4	5	6	3	8	5
+		1	4	9	6	7
	13	3	8	8	9	5

(h)

	L	T-th	Th	H	T	O
	①	③	②	②	①	
	8	7	6	4	5	3
	4	3	9	6	7	2
	8	1	6	7	2	5
+	3	1	9	7	6	2
	24	5	2	6	1	2

EXERCISE 3.3

1.

	②②①
Produced in year 2012 =	74896
Produced in year 2013 =	81694
Produced in year 2014 =	+82586
So, total number of bicycles =	239176

Hence, total number of bicycles produced in three years in 239176.

2.

	①①①①
Number of girls =	56789
Number of boys =	+6785
So, total number of students =	63474

Hence, total number of students in the University is 63474.

3.

	①①①
Number of English books =	7856
Number of Maths books =	9178
Number of science books =	+6725
So, total number of books =	23759

Hence, total number of books in the library is 23759.

4.

	②②①①
Number of wheat bags =	78564
Number fo rice bags =	9728
Number of bazra bags =	+3785
So, total number of bags =	92077

Hence, total number fo bags in godown is 92077.

5.

	①①①①
Number of chairs =	72596
Number of tables =	+37567
So, total number of items =	110163

Hence, total number of items in godown is 110163.

6.

	①①①
Number of refrigerators =	56285
Number of conditioners =	17963
So, total number of items =	74248

Hence, total number of items sold by company is 74248.

4. Subtraction

EXERCISE 4.1

1. Subtract the following :

(a)

	T-th	Th	H	T	O
	8	5	6	7	9
−	3	5	2	4	5
	5	0	4	3	4

(b)

	T-th	Th	H	T	O
	7	2	8	5	6
−	3	1	8	4	2
	4	1	0	1	4

(c)

	T-th	Th	H	T	O
	5	1	6	0	8
−	3	1	5	0	6
	2	0	1	0	2

(d)

	T-th	Th	H	T	O
	8	6	4	5	2
−	6	2	4	3	1
	2	4	0	2	1

(e)

	T-th	Th	H	T	O
	9	1	7	2	5
−	8	1	3	1	4
	1	0	4	1	1

(f)

	T-th	Th	H	T	O
	6	4	2	8	5
−	4	1	2	7	5
	2	3	0	1	0

(g)

	T-th	Th	H	T	O
	7	2	8	9	5
−	4	2	6	9	2
	3	0	2	0	3

(h)

	T-th	Th	H	T	O
	6	7	8	5	3
−	4	5	3	2	1
	2	2	5	3	2

(i)

	T-th	Th	H	T	O
	3	7	5	8	4
−	1	6	1	4	2
	2	1	4	4	2

2. Subtract the following :

(a)

	L	T-th	Th	H	T	O
	7	8	5	6	2	4
−	2	4	5	1	1	2
	5	4	0	5	1	2

(b)

	L	T-th	Th	H	T	O
	9	8	0	5	4	8
−	7	2	0	4	1	6
	2	6	0	1	3	2

(c)

	L	T-th	Th	H	T	O
	7	2	8	5	6	3
−	5	1	8	4	3	1
	2	1	0	1	3	2

(d)

	L	T-th	Th	H	T	O
	5	4	2	8	6	9
−	4	1	2	8	5	4
	1	3	0	0	1	5

(e)

	L	T-th	Th	H	T	O
	7	6	3	2	8	5
−	4	3	1	2	6	2
	3	3	2	0	2	3

(f)

	L	T-th	Th	H	T	O
	5	4	3	2	5	6
−	1	2	1	2	3	4
	4	2	2	0	2	2

(g)

	L	T-th	Th	H	T	O
	8	5	6	3	2	8
−	4	1	5	2	1	6
	4	4	1	1	1	2

(h)

	L	T-th	Th	H	T	O
	9	1	6	8	5	4
−	6	1	2	8	1	4
	3	0	4	0	4	0

(i)

	L	T-th	Th	H	T	O
	3	7	2	8	5	4
−	3	1	2	7	1	2
	0	6	0	1	4	2

EXERCISE 4.2

1. Subtract the following :

(a)

	T-th	Th	H	T	O
	⑥	⑪	⑰	⑮	
	7	2	8	5	6
−	1	7	9	8	3
	5	4	8	7	3

(b)

	T-th	Th	H	T	O
	②	⑫	④	⑨	⑫
	3	2	5	0	2
−	2	8	4	0	6
	0	4	0	9	6

(c)

	T-th	Th	H	T	O
	⑥	⑫	⑦	⑨	⑫
	7	2	8	0	2
−	3	7	6	0	5
	3	5	1	9	7

(d)

	T-th	Th	H	T	O
	④	⑪	⑬	⑤	⑪
	5	2	3	6	1
−	4	2	8	5	9
	0	9	5	0	2

(e)

	T-th	Th	H	T	O
	⑥	⑪	⑨	⑨	⑩
	7	2	0	0	0
−	3	7	6	8	7
	3	4	3	1	3

(f)

	T-th	Th	H	T	O
	③	⑫	②	⑩	⑯
	4	2	3	1	6
−	2	8	1	6	9
	1	4	1	4	7

(g)

	T-th	Th	H	T	O
	③	⑬	⑤	⑯	⑪
	4	3	3	7	1
−	2	8	5	9	6
	1	5	0	7	5

(h)

	T-th	Th	H	T	O
	⑧	⑨	⑨	⑪	
	9	9	9	1	2
−	8	1	6	7	2
	0	8	3	4	0

(i)

	T-th	Th	H	T	O
	②	⑯	⑪	⑪	
	3	7	2	1	6
−	1	8	9	2	3
	1	8	2	9	3

2. Subtract the following :

(a)

	L	T-th	Th	H	T	O
		⑥	⑪	⑩	⑮	⑫
	6	7	2	1	8	2
−	4	3	7	8	9	6
	2	3	4	2	6	6

(b)

	L	T-th	Th	H	T	O
	⑤	⑪	⑩	⑪	⑫	⑪
	8	2	1	2	3	1
−	4	8	6	5	9	6
	1	3	4	6	3	5

(c)

	L	T-th	Th	H	T	O
	②	⑯	⑪	⑨	⑨	⑪
	✗	✗	✗	Ø	Ø	✗
−	2	8	6	0	7	9
	0	8	5	9	2	2

(d)

	L	T-th	Th	H	T	O
	⑥	⑩	⑮	⑨	⑨	⑫
	✗	✗	✗	Ø	Ø	✗
−	5	2	8	5	6	3
	1	8	7	4	3	9

(e)

	L	T-th	Th	H	T	O
	③	⑫	⑦	⑩	⑨	⑫
	✗	✗	✗	✗	Ø	✗
−	2	8	6	5	9	7
	1	4	1	5	0	5

(f)

	L	T-th	Th	H	T	O
	⑧	⑨	⑨	⑨	⑨	⑩
	Ø	Ø	Ø	Ø	Ø	Ø
−	7	8	6	5	4	3
	1	1	3	4	5	7

(g)

	L	T-th	Th	H	T	O
	⑦	⑪	①	⑫	⑩	
	✗	✗	✗	✗	Ø	6
−	7	8	1	6	9	2
	0	3	0	6	1	4

(h)

	L	T-th	Th	H	T	O
	⑥	⑨	⑨	⑨	⑨	⑩
	✗	Ø	Ø	Ø	Ø	Ø
−	4	5	8	6	3	2
	2	4	1	3	6	8

(i)

	L	T-th	Th	H	T	O
		④	⑨	⑫	⑩	⑫
	6	✗	Ø	✗	✗	✗
−	4	1	8	9	6	5
	2	3	1	3	4	7

EXERCISE 4.3

1.

Total number of students = ⑥⑫⑦⑮ / ✗✗✗✗9
Number of girls = −3 4 7 8 5
So, total number of boys = 3 8 0 7 4

Hence, the total number of boys is 38074.

2. Dairy Produced milk in one month = 42856l

Supply in one town = ① ① / 1 2 6 2 3 l
Supply in second town = +1 5 7 2 8 l
So, total supply in both town = 2 8 3 5 1 l

Now, Supply in one month = 4 2 8 5 6 l
Total supply in both town = −2 8 3 5 1 l
So, total supply in third town = 1 4 5 0 5 l

Hence, 14505l milk was supplied to third town.

3. Total population = 84340

Number of drink tea = ① ① ① / 3 7 8 5 6
Number of drink coffee = + 1 4 8 2 9
So, total number of drink both = 5 2 6 8 5

Now, Total population = 8 4 3 4 0
Number of drink both = − 5 2 6 8 5
So, total number of drink none = 3 1 6 5 5

Hence, 31655 people drink none of these.

4. Total number of trees = 72580

Number of trees burn in fire = 5 6 3 8
Number of trees cut down = +1 3 4 8 0
So, total number of trees cut and burn = 1 9 1 1 8

Now, Total number of trees = 7 2 5 8 0
Total number of trees cut and burn = − 1 9 1 1 8
5 3 4 6 2

Hence, total number of trees left =
Hence, total number of trees left in the forest are 53462.

5. Earing of Amit = ₹ 8 5 0 6 8 0
Earining of his wife = − ₹ 5 4 0 0 0 0
So, money he earn his wife = ₹ 3 1 0 6 8 0

Hence, ₹ 310680 money he earn than his wife.

6. Earning of Mahesh = ₹ 8 0 6 0 0
Spends in a month = − ₹ 5 2 9 0 0
So, he saving = ₹ 2 7 7 0 0

Hence, Mahesh save ₹ 27700.

7. Required number = 7 2 8 5 6 3
− 6 9 4 5 3 2
0 3 4 0 3 1

Hence, required number is 34031.

8. Required number = 800000 − 583459

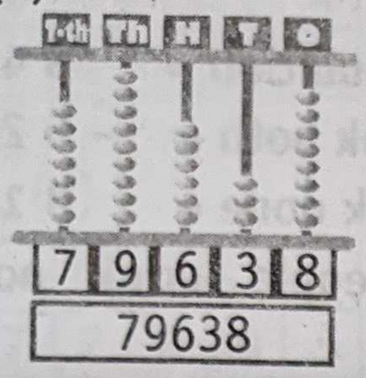
8 0 0 0 0 0
− 5 8 3 4 5 9
2 1 6 5 4 1

Hence, required number is 216541.

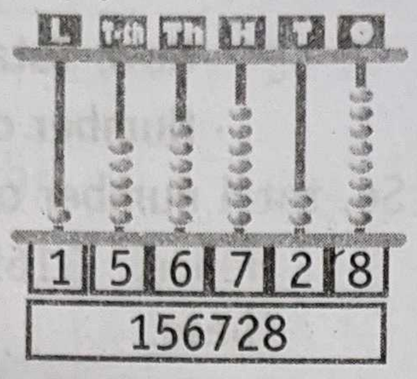
Comulative Revision-I

1. Draw the following numbers on the given abacus :

(a) 79368



(b) 156728



2. Write the expanded form of :

(a) 60000 + 7000 + 800 + 90 + 5

(b) 300000 + 7000 + 600 + 90 + 8

3. Arrange the following numbers in descending order :

1028567, 205963, 57638, 45638

4. Add the following :

(a)

	L	T-th	Th	H	T	O
	①	①	①	①	①	
	6	7	8	5	9	6
+	2	3	7	6	9	8
	9	1	6	2	9	4

(b)

	L	T-th	Th	H	T	O
	①	①	①	①	①	
	5	4	3	7	8	5
+	3	6	7	8	9	7
	9	1	1	6	8	2

5. Subtract the following :

(a)

	L	T-th	Th	H	T	O
			⑧	⑬	⑥	⑫
	6	5	~~9~~	~~3~~	~~7~~	~~2~~
−	4	3	8	5	6	9
	2	2	0	8	0	3

(b)

	L	T-th	Th	H	T	O
			⑧	⑫	⑨	⑫
	8	7	~~9~~	~~3~~	~~0~~	~~2~~
−	5	6	8	9	7	4
	3	1	0	3	2	8

5. Multiplication

EXERCISE 5.1

1. Multiply the following :

(a) 723 × 10 = 723 0 = **7230**

(b) 516 × 10 = 516 0 = **5160**

(c) 5193 × 10 = 5193 0 = **51930**

(d) 9162 × 10 = 91620 0 = **916200**

(e) 5132 × 100 = 5132 00 = **513200**

(f) 9032 × 100 = 9032 00 = **903200**

(g) 7123 × 100 = 7123 00 = **712300**

(h) 1528 × 100 = 1528 00 = **152800**

(i) 6123 × 100 = 6123 00 = **612300**

2. Multiply the following :

(a) 916 × 1000 = 916 000 = **916000**

(b) 4128 × 1000 = 4128 000 = **4128000**

(c) 9128 × 1000 = 9128 000 = **9128000**

(d) 619 × 1000 = 619 000 = **619000**

(e) 140 × 1000 = 140 000 = **140000**

(f) 623 × 1000 = 623 000 = **623000**

(g) 923 × 1000 = 923 000 = **923000**

(h) 192 × 1000 = 192 000 = **192000**

(i) 6123 × 1000 = 6123 000 = **6123000**

3. Multiply the following :

(a) 412 × 20 = (412 × 2) × 10
= 812 × 10 = **8240**

(b) 316 × 50 = (316 × 5) × 10
= 1580 × 10 = **15800**

(c) 923 × 400 = (923 × 4) × 100
= 3692 × 100 = **369200**

(d) 723 × 500 = (723 × 5) × 100
= 3615 × 100 = **361500**

(e) 613 × 700 = (613 × 7) × 100
= 4291 × 100 = **429100**

(f) 900 × 3000 = (900 × 3) × 1000
= 2700 × 1000
= **2700000**

(g) 4128 × 4000 = (4128 × 4) × 1000
= 16512 × 1000
= **16512000**

(h) 629 × 9000 = (629 × 9) × 1000
= 5661 × 1000
= **5661000**

(i) 728 × 8000 = (728 × 8) × 1000
= 5824 × 1000
= **5824000**

4. Multiply by using suitable grouping :

(a) 30 × 25 × 4 = 30 × (25 × 4)
= 30 × 1000 = **3000**

(b) 196 × 20 × 4 = 196 × (20 × 4)
= 196 × 80 = 15680

(c) $125 \times 128 \times 4 = 125 \times (128 \times 4)$
$= 125 \times 512 =$ **64000**

(d) $7 \times 20 \times 10 = (20 \times 10)$
$= 200 \times 7$
$= (2 \times 7) \times 100 =$ **1400**

(e) $20 \times 36 \times 5 = (36 \times 5)$
$= 180 \times 20$
$= (18 \times 2) \times 100 =$ **3600**

(f) $23 \times 50 \times 8 = (50 \times 8)$
$= 400 \times 23$
$= (4 \times 23) \times 100 =$ **9200**

(g) $65 \times 40 \times 5 = (40 \times 5)$
$= 200 \times 65$
$= (2 \times 65) \times 100 =$ **13000**

(h) $125 \times 96 \times 8$
$= (96 \times 8)$
$= 768 \times 125 =$ **96000**

(i) $50 \times 48 \times 10$
$= (48 \times 10) = 480 \times 50$
$= (48 \times 5) \times 100 =$ **24000**

5. Multiply by expansion method :

(a) 328×4
$= (300 + 20 + 8) \times 4$
$= (300 \times 4) + (20 \times 4) + (8 \times 4)$
$= 1200 + 80 + 32 =$ **1312**

(b) 716×9
$= (700 + 10 + 6) \times 9$
$= (700 \times 9) + (10 \times 9) + (6 \times 9)$
$= 6300 + 90 + 54 =$ **6444**

(c) 8123×7
$= (8000 + 100 + 20 + 3) \times 7$
$= (8000 \times 7) + (100 \times 7) + (20 \times 7) + (3 \times 7)$
$= 56000 + 700 + 140 + 21 =$ **56861**

(d) 516×8
$= (500 + 10 + 6) \times 8$
$= (500 \times 8) + (10 \times 8) + (6 \times 8)$
$= 4000 + 80 + 48 =$ **4128**

(e) 3172×7
$= (3000 + 100 + 70 + 2) \times 7$
$= (3000 \times 7) + (100 \times 7) + (70 \times 7) + (2 \times 7)$
$= 21000 + 700 + 490 + 14 =$ **22204**

(f) 9162×8
$= (9000 + 100 + 60 + 2) \times 8$
$= (9000 \times 8) + (100 \times 8) + (60 \times 8) + (2 \times 8)$
$= 72000 + 800 + 480 + 16 =$ **73296**

(g) 3164×5
$= (3000 + 100 + 60 + 4) \times 5$
$= (3000 \times 5) + (100 \times 5) + (60 \times 5) + (4 \times 5)$
$= 15000 + 500 + 300 + 20 =$ **15820**

(h) 9285×6
$= (9000 + 200 + 80 + 5) \times 6$
$= (9000 \times 6) + (200 \times 6) + (80 \times 6) + (5 \times 6)$
$= 54000 + 1200 + 480 + 30$
$=$ **55710**

(i) 7162×4
$= (7000 + 100 + 60 + 2) \times 4$
$= (7000 \times 4) + (100 \times 4) + (60 \times 4) + (2 \times 4)$
$= 28000 + 400 + 240 + 8 =$ **28648**

EXERCISE 5.2

1. Multiply the following :

(a)

T-th	Th	H	T	O
		3	2	8
		×	5	6
	1	9	6	8
+	1	6	4	0
	1	8	3	6

(b)

T-th	Th	H	T	O
		4	9	8
		×	4	2
		9	9	6
+	1	9	9	2
	2	0	9	1

(c)

T-th	Th	H	T	O
		3	7	8
		×	6	9
	3	4	0	2
+	2	2	6	8
	2	6	0	8

(d)

T-th	Th	H	T	O
		4	5	7
		×	7	5
	2	2	8	5
+	3	1	9	9
	3	4	2	7	5

(e)

T-th	Th	H	T	O
		9	1	9
		×	7	8
	7	3	5	2
+	6	4	3	3	×
	7	1	6	8	2

(f)

T-th	Th	H	T	O
		3	7	6
		×	4	8
	3	0	0	8
+	1	5	0	4	×
	1	8	0	4	8

2. Multiply the following :

(a)

L	T-th	Th	H	T	O
			4	5	7
		×	2	5	9
		4	1	1	3
	2	2	8	5	×
+	9	1	4	×	×
1	1	8	3	6	3

(b)

L	T-th	Th	H	T	O
			1	4	6
		×	2	9	7
		1	0	2	2
	1	3	1	4	×
+	2	9	2	×	×
	4	3	3	6	2

(c)

L	T-th	Th	H	T	O
			5	7	6
		×	2	7	8
		4	6	0	8
	4	0	3	2	×
+	1	1	5	2	×	×
	1	6	0	1	2	8

(d)

L	T-th	Th	H	T	O
			4	5	6
		×	2	7	8
		3	6	4	8
	3	1	9	2	×
+	9	1	2	×	×
1	2	6	7	6	8

(e)

L	T-th	Th	H	T	O
			9	1	8
		×	4	1	6
		5	5	0	8
		9	1	8	×
+	3	6	7	2	×	×
	3	8	1	8	8	8

(f)

L	T-th	Th	H	T	O
			8	7	9
		×	5	2	6
		5	2	7	4
	1	7	5	8	×
+	4	3	9	5	×	×
	4	6	2	3	5	4

3. Multiply the following :

(a)

L	T-th	Th	H	T	O
			7	2	8	5
				×	5	6
		4	3	7	1	0
+	3	6	4	2	5	×
	4	0	7	9	6	0

(b)

L	T-th	Th	H	T	O
			8	3	5	9
				×	7	8
		6	6	8	7	2
+	5	8	5	1	3	×
	6	5	2	0	0	2

(c)

L	T-th	Th	H	T	O
			5	6	3	4
				×	8	5
		2	8	1	7	0
+	4	5	0	7	2	×
	4	7	8	8	9	0

(d)

L	T-th	Th	H	T	O
			3	7	6	8
				×	7	5
		1	8	8	4	0
+	2	6	3	7	6	×
	2	8	2	6	0	0

(e)

L	T-th	Th	H	T	O
			7	4	3	8
				×	4	9
		6	6	9	4	2
+	2	9	7	5	2	×
	3	6	4	4	6	2

(f)

L	T-th	Th	H	T	O
			4	5	6	7
				×	9	5
		2	2	8	3	5
+	4	1	1	0	3	×
	4	3	3	8	6	5

4. Multiply the following :

(a)

L	T-th	Th	H	T	O
			3	4	8	6
				×	1	3	7
		2	4	4	0	2
	1	0	4	5	8	×
+	3	4	8	6	×	×
	4	7	7	5	8	2

(b)

L	T-th	Th	H	T	O
			4	5	3	9
				×	2	8	5
		2	2	6	9	5
	3	6	3	1	2	×
+	9	0	7	8	×	×
12	9	3	6	1	5

(c)

L	T-th	Th	H	T	O
			6	7	8	5
				×	3	6	9
		6	1	0	6	5
	4	0	7	1	0	×
2	0	3	5	5	×	×
2	5	0	3	6	6	5

(d)

L	T-th	Th	H	T	O
			7	8	1	6
				×	4	5	8
		6	2	5	2	8
	3	9	0	8	0	×
3	1	2	6	4	×	×
3	5	7	9	7	2	8

(e)

L	T-th	Th	H	T	O
			4	5	2	6
				×	5	8	9
		4	0	7	3	4
	3	6	2	0	8	×
2	2	6	3	0	×	×
2	6	6	5	8	1	4

(f)

L	T-th	Th	H	T	O
			7	3	6	9
				×	7	2	8
		5	8	9	5	2
	1	4	7	3	8	×
5	1	5	8	3	×	×
5	3	6	4	6	3	2

5. Multiply the following in your note book :

(a)

T-th	Th	H	T	O
		4	2	6
		×	2	5
	2	1	3	0
+	8	5	2	×
	10	6	5	0

(b)

T-th	Th	H	T	O
		3	9	6
		×	6	8
	3	1	6	8
+	2	3	7	6	×
	2	6	9	2	8

(c)

T-th	Th	H	T	O
		5	1	6
		×	3	9
	4	6	4	4
1	5	4	8	×
2	0	1	2	4

(d)

T-th	Th	H	T	O
		7	2	8
		×	6	5
	3	6	4	0
4	3	6	8	×
4	7	3	2	0

(e)

L	T-th	Th	H	T	O
			1	2	8
		×	3	5	6
			7	6	8
		6	4	0	×
+	3	8	4	×	×
	4	5	5	6	8

(f)

L	T-th	Th	H	T	O
			4	8	9
		×	4	5	3
		1	4	6	7
	2	4	4	5	×
+	1	9	5	6	×	×
	2	2	1	6	1	7

(g)

L	T-th	Th	H	T	O
			7	1	9
		×	6	2	3
		2	1	5	7
	1	4	3	8	×
4	3	1	4	×	×
4	4	7	9	3	7

(h)

L	T-th	Th	H	T	O
			8	1	5
		×	2	3	9
		7	3	3	5
	2	4	4	5	×
1	6	3	0	×	×
1	9	4	7	8	5

(i)

L	T-th	Th	H	T	O
			7	2	8
		×	3	6	4
		2	9	1	2
	4	3	6	8	×
2	1	8	4	×	×
2	6	4	9	9	2

6. Multiply the following in your note book:

(a)

L	T-th	Th	H	T	O
		4	1	7	8
			×	2	8
	3	3	4	2	4
+	8	3	5	6	×
	11	6	9	8	4

(b)

L	T-th	Th	H	T	O
		7	2	8	5
			×	4	6
	4	3	7	1	0
2	9	1	4	0	×
3	3	5	1	1	0

(c)

L	T-th	Th	H	T	O
		3	1	4	6
			×	5	2
		6	2	9	2
1	5	7	3	0	×
1	6	3	5	9	2

(d)

L	T-th	Th	H	T	O
		7	1	9	6
			×	4	6
	4	3	1	7	6
2	8	7	8	4	×
3	3	1	0	1	6

(e)

L	T-th	Th	H	T	O
		3	7	8	4
			×	1	4	9
		3	4	0	5	6
	1	5	1	3	6	×
+	3	7	8	4	×	×
	5	6	3	8	1	6

(f)

L	T-th	Th	H	T	O
		4	2	5	6
			×	2	5	6
	2	5	5	3	6
2	1	2	8	0	×
+	8	5	1	2	×	×
	10	8	9	5	3	6

(g)

L	T-th	Th	H	T	O
		8	1	9	6
		×	4	2	8
	6	5	5	6	8
1	6	3	9	2	×
3	2	7	8	4	×	×
3	5	0	7	8	8	8

(h)

L	T-th	Th	H	T	O
		3	7	9	6
		×	3	1	5
	1	8	9	8	0
	3	7	9	6	×
1	1	3	8	8	×	×
1	1	9	5	7	4	0

(i)

L	T-th	Th	H	T	O
		4	2	8	1
		×	6	4	8
	3	4	2	4	8
1	7	1	2	4	×
2	5	6	8	6	×	×
2	7	7	4	0	8	8

EXERCISE 5.3

1. Number of bottles in a carton = 486

So, total number of

		×	6	8
	3	8	8	8
2	9	1	6	×
3	3	0	4	8

bottles in 68 carton=

Hence, there are 33048 bottles in 68 carton.

2. Cost of refrigerator = 1145

Cost of 128 refrigerator =

			×	1	2	8
		9	1	6	0	0
	2	2	9	0	0	×
1	1	4	5	0	×	×
1	4	6	5	6	0	0

Hence, cost of 128 refrigerator are ₹ 1465600.

3. Cost of computer = 38990

Cost of 46 computer =

			×	4	6
	2	3	3	9	4	0
1	5	5	9	6	0	×
1	7	9	3	5	4	0

Hence, cost of 46 computer is ₹ 1793540

4. Number of bags wheat in one truck = 748

Total number of bags in truck

	×	1	2	8
	5	9	8	4
1	4	9	6	×
7	4	8	×	×
9	5	7	4	4

Hence, 95744 bags can carry in 128 trucks.

5. Number of bolts in one packet = 2560

Number of bolts in 148.

		×	1	4	8
	2	0	4	8	0
1	0	2	4	0	×
2	5	6	0	×	×
3	7	8	8	8	0

Packets =

Hence, there are 378880 bolts in 148 packets.

6. Total number of passenger in one bus = 64

So, total number of passengers in 148 buses =

	1	4	8
	×	6	4
	5	9	2
8	8	8	×
9	4	7	2

Hence, 9472 passengers in 148 buses.

7. Cost of one LCD = 2990

Cost of 192 LCD =

			×	1	9	2
		5	9	9	8	0
	2	6	9	9	1	0	×
	2	9	9	9	0	×	×
5	7	5	8	0	8	0

Hence, cost of 192 LCDs is ₹ 5758080.

8. Number of nuts in one packet = 1440

Number of nuts in 348 packets =

		×	3	4	8
	1	1	5	2	0
	5	7	6	0	×
4	3	2	0	×	×
5	0	1	1	2	0

Hence, 501120 nuts in 348 packets.

6. Division

EXERCISE 6.1

1. Find the quotient and the remainder :

(a) $728 \div 10$

$$\begin{array}{r|l} 10 & 728 \\ -70 & \hline 28 \\ -20 & \hline 8 \end{array}$$

quotient = 72

remainder = 8

(b) $516 \div 10$

$$\begin{array}{r|l} 10 & 516 \\ -50 & \hline 16 \\ -10 & \hline 6 \end{array}$$

quotient = 51

remainder = 6

(c) $327 \div 10$

$$\begin{array}{r|l} 10 & 327 \\ -30 & \hline 27 \\ -20 & \hline 7 \end{array}$$

quotient = 32

remainder = 7

(d) $9163 \div 10$

$$\begin{array}{r|l} 10 & 9163 \\ -90 & \hline 16 \\ -10 & \hline 63 \\ -60 & \hline 3 \end{array}$$

quotient = 916

remainder = 3

(e) 2819 ÷ 10

$$\begin{array}{r|l} 10 & 2819 \\ -20 & \downarrow \\ \hline & 81 \\ -80 & \downarrow \\ \hline & 19 \\ -10 & \\ \hline & 9 \end{array} \quad 281$$

quotient = 281
remainder = 9

(f) 3106 ÷ 10

$$\begin{array}{r|l} 10 & 3106 \\ -30 & \downarrow \\ \hline & 10 \\ -10 & \downarrow \\ \hline & 06 \end{array} \quad 310$$

quotient = 310
remainder = 6

(g) 24834 ÷ 10

$$\begin{array}{r|l} 10 & 24834 \\ -20 & \downarrow \\ \hline & 48 \\ -40 & \downarrow \\ \hline & 83 \\ -80 & \downarrow \\ \hline & 34 \\ -30 & \\ \hline & 4 \end{array} \quad 2483$$

quotient = 2483
remainder = 4

(h) 14163 ÷ 10

$$\begin{array}{r|l} 10 & 14163 \\ -10 & \downarrow \\ \hline & 41 \\ -40 & \downarrow \\ \hline & 16 \\ -10 & \downarrow \\ \hline & 63 \\ -60 & \\ \hline & 3 \end{array} \quad 1416$$

quotient = 1416
remainder = 3

(i) 56828 ÷ 10

$$\begin{array}{r|l} 10 & 56828 \\ -50 & \downarrow \\ \hline & 68 \\ -60 & \downarrow \\ \hline & 82 \\ -80 & \downarrow \\ \hline & 28 \\ -20 & \\ \hline & 8 \end{array} \quad 5682$$

quotient = 5682
remainder = 8

2. Find the quotient and the remainder :

(a) 71628 ÷ 100

$$\begin{array}{r|l} 100 & 71628 \\ -700 & \downarrow \\ \hline & 162 \\ -100 & \downarrow \\ \hline & 628 \\ -600 & \\ \hline & 28 \end{array} \quad 716$$

quotient = 716
remainder = 28

(b) 92853 ÷ 100

$$\begin{array}{r|l} 100 & 92853 \\ -900 & \downarrow \\ \hline & 285 \\ -200 & \downarrow \\ \hline & 853 \\ -800 & \\ \hline & 53 \end{array} \quad 928$$

quotient = 928
remainder = 53

(c) 45285 ÷ 100

$$\begin{array}{r|l} 100 & 45285 \\ -400 & \downarrow \\ \hline & 528 \\ -500 & \downarrow \\ \hline & 285 \\ -200 & \\ \hline & 85 \end{array} \quad 452$$

quotient = 452
remainder = 85

(d) 86325 ÷ 100

$$\begin{array}{r|l} 100 & 86325 \\ -800 & \downarrow \\ \hline & 632 \\ -600 & \downarrow \\ \hline & 325 \\ -300 & \\ \hline & 25 \end{array} \quad 863$$

quotient = 863
remainder = 25

(e) 316852 ÷ 100

$$\begin{array}{r|l} 100 & 316952 \\ -300 & \downarrow \\ \hline & 169 \\ -100 & \downarrow \\ \hline & 695 \\ -600 & \downarrow \\ \hline & 952 \\ -900 & \\ \hline & 52 \end{array} \quad 3169$$

quotient = 3169
remainder = 52

(f) 142852 ÷ 100

$$\begin{array}{r|l} 100 & 142852 \\ -100 & \downarrow \\ \hline & 428 \\ -400 & \downarrow \\ \hline & 285 \\ -200 & \downarrow \\ \hline & 852 \\ -800 & \\ \hline & 52 \end{array} \quad 1428$$

quotient = 1428
remainder = 52

(g) 916285 ÷ 100

$$\begin{array}{r|l} 100 & 916285 \\ -900 & \downarrow \\ \hline & 162 \\ -100 & \downarrow \\ \hline & 628 \\ -600 & \downarrow \\ \hline & 285 \\ -200 & \\ \hline & 85 \end{array} \quad 9162$$

quotient = 9162
remainder = 85

(h) 300285 ÷ 100

100) 300285 (3002
−300
285
−200
85

quotient = 3002
remainder = 85

(i) 972372 ÷ 100

100) 972372 (9723
−900
723
−700
237
−200
372
−300
72

quotient = 9723
remainder = 72

3. Find the quotient and the remainder :

(a) 216328 ÷ 1000

1000) 216328 (216
−2000
1632
−1000
6328
−6000
328

quotient = 216
remainder = 328

(b) 31728 ÷ 1000

1000) 31728 (31
−3000
1728
−1000
728

quotient = 31
remainder = 728

(c) 10028 ÷ 1000

1000) 10028 (10
−1000
28

quotient = 10
remainder = 28

(d) 712856 ÷ 1000

1000) 712856 (712
−7000
1285
−1000
2856
−2000
856

quotient = 712
remainder = 856

(e) 410062 ÷ 1000

1000) 410062 (410
−4000
1006
−1000
62

quotient = 410
remainder = 62

(f) 782850 ÷ 1000

1000) 782850 (782
−7000
8285
−8000
2850
−2000
850

quotient = 782
remainder = 850

(g) 285962 ÷ 1000

1000) 285962 (285
−2000
8596
−8000
5962
−5000
962

quotient = 285
remainder = 962

(h) 785962 ÷ 1000

1000) 785962 (785
−7000
8596
−8000
5962
−5000
962

quotient = 785
remainder = 962

(i) 372851 ÷ 1000

1000) 372851 (372
−3000
7285
−7000
2851
−2000
851

quotient = 372
remainder = 851

4. Find the quotient and the remainder :

(a) 91628 ÷ 10000

10000) 91628 (9
−90000
1628

(b) 31728 ÷ 10000

10000) 31728 (3
−30000
1728

quotient = 9
remainder = 1628

quotient = 3
remainder = 1728

(c) 81634 ÷ 10000

```
10000 ) 81634 ( 8
      - 80000
        1634
```

quotient = 8
remainder = 1634

(d) 728563 ÷ 10000

```
10000 ) 728563 ( 72
      - 70000↓
        28563
      - 20000
         8563
```

quotient = 72
remainder = 8563

(e) 91635 ÷ 10000

```
10000 ) 91635 ( 9
      - 90000
         1635
```

quotient = 9
remainder = 1635

(f) 38565 ÷ 10000

```
10000 ) 38565 ( 3
      - 30000
         8565
```

quotient = 3
remainder = 8565

(g) 410628 ÷ 10000

```
10000 ) 410628 ( 41
      - 40000
        10628
      - 10000
          628
```

quotient = 41
remainder = 628

(h) 485634 ÷ 10000

```
10000 ) 485634 ( 48
      - 40000
        85634
      - 80000
         5634
```

quotient = 48
remainder = 5634

(i) 198765 ÷ 10000

```
10000 ) 198765 ( 19
      - 10000
        98765
      - 90000
         8765
```

quotient = 19
remainder = 8765

5. Find the quotient and the remainder :

(a) 712896 ÷ 100000

```
100000 ) 712896 ( 7
       - 700000
         12896
```

quotient = 7
remainder = 12896

(b) 9106285 ÷ 100000

```
100000 ) 9106285 ( 91
       - 900000↓
         106285
       - 100000
           6285
```

quotient = 91
remainder = 6285

(c) 372856 ÷ 100000

```
100000 ) 372856 ( 3
       - 300000
         72856
```

quotient = 3
remainder = 72856

(d) 156028 ÷ 100000

```
100000 ) 156028 ( 1
       - 100000
         56028
```

quotient = 1
remainder = 56028

(e) 278563 ÷ 100000

```
100000 ) 278563 ( 2
       - 200000
         78563
```

quotient = 2
remainder = 78563

(f) 7863078 ÷ 100000

```
100000 ) 7863078 ( 78
       - 200000↓
         863078
       - 800000
          63078
```

quotient = 78
remainder = 63078

(g) 728593 ÷ 100000

```
100000 ) 728593 ( 7
       - 700000
         28593
```

quotient = 7
remainder = 28593

(h) 1279638 ÷ 100000

```
100000 ) 1279638 ( 12
       - 100000↓
         279638
       - 200000
          79638
```

quotient = 12
remainder = 79638

(i) 916385 ÷ 100000

```
100000 ) 916385 ( 9
       - 900000
         16385
```

quotient = 9
remainder = 16385

EXERCISE 6.2

1. Divide the following :

(a)

$$\begin{array}{r|l} 4 & 7285 \\ -4 & \\ \hline 32 & \\ -32 & \\ \hline 8 & \\ -8 & \\ \hline 5 & \\ -4 & \\ \hline 1 & \end{array} \quad 1821$$

quotient = 1821
remainder = 1

(b)

$$\begin{array}{r|l} 5 & 91634 \\ -5 & \\ \hline 41 & \\ -40 & \\ \hline 16 & \\ -15 & \\ \hline 13 & \\ -10 & \\ \hline 34 & \\ -30 & \\ \hline 4 & \end{array} \quad 18326$$

quotient = 18326
remainder = 4

(c)

$$\begin{array}{r|l} 6 & 81403 \\ -6 & \\ \hline 21 & \\ -18 & \\ \hline 34 & \\ -30 & \\ \hline 40 & \\ -36 & \\ \hline 43 & \\ -42 & \\ \hline 1 & \end{array} \quad 13567$$

quotient = 13567
remainder = 1

(d)

$$\begin{array}{r|l} 7 & 81634 \\ -7 & \\ \hline 11 & \\ -7 & \\ \hline 46 & \\ -42 & \\ \hline 43 & \\ -42 & \\ \hline 14 & \\ -14 & \\ \hline 0 & \end{array} \quad 11662$$

quotient = 11662
remainder = 0

(e)

$$\begin{array}{r|l} 8 & 91628 \\ -8 & \\ \hline 11 & \\ -8 & \\ \hline 36 & \\ -32 & \\ \hline 42 & \\ -40 & \\ \hline 28 & \\ -24 & \\ \hline 4 & \end{array} \quad 11453$$

quotient = 11453
remainder = 4

(f)

$$\begin{array}{r|l} 7 & 83706 \\ -7 & \\ \hline 13 & \\ -7 & \\ \hline 67 & \\ -63 & \\ \hline 40 & \\ -35 & \\ \hline 56 & \\ -56 & \\ \hline 0 & \end{array} \quad 11958$$

quotient = 11958
remainder = 0

(g)

$$\begin{array}{r|l} 8 & 406234 \\ -40 & \\ \hline 62 & \\ -56 & \\ \hline 63 & \\ -56 & \\ \hline 74 & \\ -72 & \\ \hline 2 & \end{array} \quad 50779$$

quotient = 50779
remainder = 2

(h)

$$\begin{array}{r|l} 9 & 192068 \\ -18 & \\ \hline 12 & \\ -9 & \\ \hline 30 & \\ -27 & \\ \hline 36 & \\ -36 & \\ \hline 08 & \end{array} \quad 21340$$

quotient = 21340
remainder = 8

(i)

$$\begin{array}{r|l} 6 & 37285 \\ -36 & \\ \hline 12 & \\ -12 & \\ \hline 8 & \\ -6 & \\ \hline 25 & \\ -24 & \\ \hline 1 & \end{array} \quad 6214$$

quotient = 6214
remainder = 1

(j)

$$\begin{array}{r|l} 5 & 962852 \\ -5 & \\ \hline 46 & \\ -45 & \\ \hline 12 & \\ -10 & \\ \hline 28 & \\ -25 & \\ \hline 35 & \\ -34 & \\ \hline 2 & \end{array} \quad 192570$$

quotient = 192570
remainder = 2

(k)

$$\begin{array}{r|l} 6 & 372859 \\ -36 & \\ \hline 12 & \\ -12 & \\ \hline 8 & \\ -6 & \\ \hline 25 & \\ -24 & \\ \hline 19 & \\ -18 & \\ \hline 1 & \end{array} \quad 62143$$

quotient = 62143
remainder = 1

(l)

$$\begin{array}{r|l} 5 & 926345 \\ -5 & \\ \hline 42 & \\ -40 & \\ \hline 26 & \\ -25 & \\ \hline 13 & \\ -10 & \\ \hline 34 & \\ -30 & \\ \hline 45 & \\ -45 & \\ \hline 0 & \end{array} \quad 185269$$

quotient = 185269
remainder = 0

2. Divide and check the answer :

(a)

```
6 | 41285 | 6880
  -36
  ----
    52
   -48
   ----
     48
    -48
    ---
      05
```

Checking :

Dividend = (Divisor × quotient) + Remainder

41285 = (6 × 6880) + 5

= 41280 + 5 = 41285

(b)

```
3 | 71289 | 23763
  -6
  --
   11
   -9
   --
    22
   -21
   ---
     18
    -18
    ---
      09
      -9
      --
       0
```

Checking :

Dividend = (Divisor × quotient) + Remainder

71289 = (3 × 23763) + 0

= 71289

(c)

```
4 | 71828 | 17957
  -4
  --
   31
  -28
  ---
    38
   -36
   ---
     22
    -20
    ---
      28
     -28
     ---
       0
```

Checking :

Dividend = (Divisor × quotient) + Remainder

71828 = (4 × 17957) + 0

= 71828

(d)

```
7 | 37285 | 5326
  -35
  ---
   22
  -21
  ---
    18
   -14
   ---
     45
    -42
    ---
      3
```

Checking :

Dividend = (Divisor × quotient) + Reminder

37285 = (7 × 5326) + 3

= 37282 + 3 = 37285

(e)

```
6 | 91837 | 15306
  -6
  --
   31
  -30
  ---
    18
   -18
   ---
     37
    -36
    ---
      1
```

Checking :

Dividend = (Divisor × quotient) + Reminder

91837 = (6 × 15306) + 1

= 91836 + 1 = 91837

(f)

```
7 | 81965 | 11709
  -7
  --
   11
   -7
   --
    49
   -49
   ---
     65
    -63
    ---
      2
```

Checking :

Dividend = (Divisor × quotient) + Remainder

81965 = (7 × 11709) + 2

= 81963 + 2

= 81965

(g)

```
8 | 126859 | 15857
  -8
  --
   46
  -40
  ---
    68
   -64
   ---
     45
    -40
    ---
      59
     -56
     ---
       3
```

Checking :

Dividend = (Divisor × quotient) + Remainder

126859 = (8 × 15857) + 3

= 126856 + 3

= 126859

(h)

```
5 | 185302 | 37060
  -15
  ---
   35
  -35
  ---
    30
   -30
   ---
     2
```

Checking :

Dividend = (Divisor × quotient) + Remainder

185302 = (5 × 37060) + 2

= 185300 + 2 = 185302

(i)

$$
\begin{array}{r|l}
8 & 516342 \quad 64542 \\
-48 & \\
\hline
36 & \\
-32 & \\
\hline
43 & \\
-40 & \\
\hline
34 & \\
-32 & \\
\hline
22 & \\
-16 & \\
\hline
6 &
\end{array}
$$

Checking :

Dividend = (Divisor × quotient) + Remainder

516342 = (8 × 64542) + 6

= 516336 + 6 = 516342

(j)

$$
\begin{array}{r|l}
9 & 245632 \quad 27292 \\
-18 & \\
\hline
65 & \\
-63 & \\
\hline
26 & \\
-18 & \\
\hline
83 & \\
-81 & \\
\hline
22 & \\
-18 & \\
\hline
4 &
\end{array}
$$

Checking :

Dividend = (Divisor × quotient) + Remainder

245632 = (9 × 27292) + 4

= 245628 + 4 = 245632

(k)

$$
\begin{array}{r|l}
6 & 816302 \quad 136050 \\
-6 & \\
\hline
21 & \\
-18 & \\
\hline
36 & \\
-36 & \\
\hline
30 & \\
-30 & \\
\hline
2 &
\end{array}
$$

Checking :

Dividend = (Divisor × quotient) + Remainder

816302 = (6 × 136050) + 2

= 816300 + 2 = 816302

(l)

$$
\begin{array}{r|l}
9 & 813726 \quad 90414 \\
-81 & \\
\hline
37 & \\
-36 & \\
\hline
12 & \\
-9 & \\
\hline
36 & \\
-36 & \\
\hline
0 &
\end{array}
$$

Checking :

Dividend = (Divisor × quotient) + Remainder

813726 = (9 × 90414) + 0

= 813726

EXERCISE 6.3

1. Divide the following :

(a)

$$
\begin{array}{r|l}
12 & 45286 \quad 3772 \\
-36 & \\
\hline
92 & \\
-84 & \\
\hline
88 & \\
-84 & \\
\hline
26 & \\
-24 & \\
\hline
2 &
\end{array}
$$

quotient = 3772

remainder = 2

(b)

$$
\begin{array}{r|l}
15 & 91632 \quad 6108 \\
-90 & \\
\hline
16 & \\
-15 & \\
\hline
132 & \\
-120 & \\
\hline
12 &
\end{array}
$$

quotient = 6108

remainder = 12

(c)

$$
\begin{array}{r|l}
18 & 37859 \quad 2103 \\
-36 & \\
\hline
18 & \\
-18 & \\
\hline
59 & \\
-54 & \\
\hline
5 &
\end{array}
$$

quotient = 2103

remainder = 5

(d)

$$
\begin{array}{r|l}
22 & 72856 \quad 3311 \\
-66 & \\
\hline
68 & \\
-66 & \\
\hline
25 & \\
-22 & \\
\hline
36 & \\
-22 & \\
\hline
14 &
\end{array}
$$

quotient = 3311

remainder = 14

(e)

$$
\begin{array}{r|l}
28 & 81563 \quad 2912 \\
-56 & \\
\hline
255 & \\
-252 & \\
\hline
36 & \\
-28 & \\
\hline
83 & \\
-56 & \\
\hline
27 &
\end{array}
$$

quotient = 2912

remainder = 27

(f)

$$
\begin{array}{r|l}
35 & 92815 \quad 2651 \\
-70 & \\
\hline
228 & \\
-210 & \\
\hline
181 & \\
-175 & \\
\hline
65 & \\
-35 & \\
\hline
30 &
\end{array}
$$

quotient = 2651

remainder = 30

(g)

```
24 | 672085 | 28003
   -48
   ---
    192
   -192
   ----
      085
      -72
      ---
       13
```

quotient = 28003
remainder = 13

(h)

```
56 | 372856 | 6658
   -336
   ----
     368
    -336
    ----
      325
     -280
     ----
      456
     -448
     ----
        8
```

quotient = 6658
remainder = 8

(i)

```
42 | 916324 | 21817
   -84
   ---
    76
   -42
   ---
    343
   -336
   ----
      72
     -42
     ---
     304
    -294
    ----
      10
```

quotient = 21817
remainder 10

(j)

```
38 | 372856 | 9812
   -342
   ----
     308
    -304
    ----
       45
      -38
      ---
       76
      -76
      ---
        0
```

quotient = 9812
remainder = 0

(k)

```
57 | 916728 | 16082
   -57
   ---
    346
   -342
   ----
      472
     -456
     ----
      168
     -114
     ----
       54
```

quotient = 16082
remainder = 54

(l)

```
62 | 372856 | 6013
   -372
   ----
      856
     -62
     ---
      236
     -186
     ----
       50
```

quotient = 6013
remainder = 50

2. Divide and check the answer :

(a)

```
17 | 92345 | 5432
   -85
   ---
    73
   -68
   ---
     54
    -51
    ---
      35
     -34
     ---
       1
```

quotient = 5432
remainder = 1

Checking :
Dividend = (Divisor × quotient) + Remainder
92345 = (17 × 5432) + 1
= 92344 + 1
= 92345

(b)

```
19 | 81654 | 4297
   -76
   ---
    56
   -38
   ---
    185
   -171
   ----
     144
    -133
    ----
      11
```

quotient = 4297
remainder = 11

Checking :
Dividend = (Divisor × quotient) + Remainder
81654 = (19 × 4297) + 11
= 81643 + 11 = 81654
quotient = 4297
remainder = 11

(c)

```
23 | 37825 | 1644
   -23
   ---
    148
   -138
   ----
     102
     -92
     ---
     105
     -92
     ---
      13
```

quotient =- 3023
remainder = 11

Checking :
Dividend = (Divisor × quotient) + Remainder
37825 = (23 × 1644) + 13
= 37812 + 13 = 37825
quotient = 1644
remainder = 13

(d)

```
27 | 81632 | 3023
   -81
   ---
     63
    -54
    ---
      92
     -82
     ---
      11
```

Checking :
Dividend = (Divisor × quotient) + Remainder
81632 = (27 × 3023) + 11
= 81621 + 11 = 81632

(e)

```
33 | 91285 | 2766
   -66
    252
   -231
     218
    -198
      205
      -198
        7
```

Checking :

Dividend = (Divisor × quotient) + Remainder

91285 = (33 × 2766) + 7

= 91278 + 7 = 91285

quotient = 2766

remainder = 7

(f)

```
57 | 28514 | 500
   -285
     014
```

Checking :

Dividend = (Divisor × quotient) + Remainder

28514 = (57 × 500) + 14

= 28500 + 14 = 28514

(g)

```
28 | 896342 | 32012
   -84
    56
   -56
     034
     -28
       62
      -56
        6
```

Checking :

Dividend = (Divisor × quotient) + Remainder

896342 = (28 × 32012) + 6

= 896336 + 6

= 896342

quotient = 32012

remainder = 6

(h)

```
44 | 193078 | 4388
   -176
    170
   -132
     387
    -352
      358
     -352
        6
```

Checking :

Dividend = (Divisor × quotient) + Remainder

193078 = (44 × 4388) + 6

= 193072 + 6 = 193078

quotient = 4388

remainder = 6

(i)

```
47 | 869428 | 18498
   -47
    399
   -376
     234
    -188
      462
     -423
       398
      -376
        22
```

Checking :

Dividend = (Divisor × quotient) + Remainder

869428 = (47 × 18498) + 22

= 869406 + 22 = 869428

quotient = 18498

remainder = 22

(j)

```
38 | 376452 | 9906
   -342
    344
   -342
     252
    -228
      24
```

Checking :

Dividend = (Divisor × quotient) + Remainder

376452 = (38 × 9906) + 24

= 376428 + 24 = 376452

quotient = 9906

remainder = 24

(k)

```
49 | 809683 | 16524
   -49
    319
   -294
     256
    -245
      118
     -98
       203
      -196
        7
```

Checking :

Dividend = (Divisor × Quotient) + Remainder

809683 = (49 × 16524) + 7

= 809676 + 7 = 809683

quotient = 16524

remainder = 7

(l)

```
57 | 416324 | 7303
   -399
    173
   -171
     224
    -171
      53
```

quotient = 7303

remainder = 53

Checking :

Dividend = (Divisor × Quotient) + Remainder

416324 = (57 × 7303) + 53

= 416271 + 53 = 416324

EXERCISE 6.4

1. Cost of 25 chairs = ₹ 12350

Cost of 1 chair = ₹ 12350 ÷ 25 = ₹ **494**

So, cost of 1 chair is ₹ 494.

2. Cost of 58 computers = ₹ 2070020

Cost of 1 computer = ₹ 207002 ÷ 58

= ₹ **35690**

So, cost of 1 computer is ₹ 35690.

3. Total number of children want to ride = 7488

Total number of children rides will the whole group = 7488 ÷ 48

= **156**

So, 156 childrens rides will the whole group.

4. Total number of trees = 37285

Total rows = 86

So, trees in each rows = 37285 ÷ 86 = **433**

Hence, there are 433 trees has the gardener and 47 trees are left.

5. Apples in each box = 96

Number of boxes to keep 28800 apples = 28800 ÷ 96

= **300**

Hence, 300 boxes are needed to keep 28800 apples.

6. Number of pins in certain number of packets = 349384

Number of pins in one packets = 68

So, total number of packets required to these pin = 349384 ÷ 68

= **5138**

Hence, 5138 packets to pack these pins.

7. Product of two numbers = 100674

One number = 63

So, other number = 100674 ÷ 63

= **1598**

Hence, other number is 1598.

8. Product of two numbers = 308154

One number = 87

So, other number = 308154 ÷ 87

= **3542**

Hence, other number is 3542.

Multiple Choice Questions (MCQs)

1. (b) **2.** (c) **3.** (a) **4.** (b) **5.** (d)
6. (c) **7.** (b) **8.** (c) **9.** (c) **10.** (b)

7. Unitary Method

EXERCISE 7

1. Cost of 12 chairs = ₹ 4380

Cost of 1 chair = ₹ 4380 ÷ 12

= ₹ **365**

So, cost of 1 chair is ₹ 365.

2. Cost of 25 sofa-set = ₹ 612500

Cost of 1 sofa-set = ₹ 612500 ÷ 25

= ₹ **24500**

So, cost of 1 sofa-set is ₹ 24500.

3. Cost of 15 pens = ₹ 210

Cost of 1 pen = ₹ 210 ÷ 15

= ₹ 14

So, cost of 32 pens = ₹ 14 × ₹ 210

= ₹ **2940**

Hence, the cost of 32 pens is ₹ 2940.

4. Cost of 8 laptops = ₹ 292000

Cost of 1 laptop = ₹ 292000 ÷ 8

= ₹ 36500

So, cost of 19 laptops = ₹ 36500 × 19

= ₹ **693500**

Hence, cost of 19 laptops is ₹ 693500

5. Cost of 14 bottles = ₹ 1344

Cost of 1 bottles = ₹ 1344 ÷ 14

= ₹ 96

So, cost of 142 bottles = ₹ 1344 × ₹ 96

= ₹ **129024**

Hence, cost of 142 bottles is ₹ 129024.

6. Cost of 4 kg wheat = ₹ 50

Cost of 1 kg wheat = ₹ 50 ÷ 4

= ₹ 12.5

So, cost of 185 kg wheat = ₹ 12.5 × 185

= ₹ **2312.5**

Hence, cost of 185 kg wheat is ₹ 2312.5.

7. Pencils produce in 7 days = 25564

Pencils produced in 1 days = 25564 ÷ 7

= **3652**

So, pencils produced

in 280 days = 3652 × 280
= **1022560**

Hence, 1022560 pencils will produce in 280 days.

8. Number of passengers in 6 buses = 336

Number of passengers in 1 bus = 336 ÷ 6 = 56

So, number of buses required to carry 4032 passengers = 4032 ÷ 56 = **72**

Hence, 72 buses needed to carry 4032 passengers.

Comulative Revision - II

1. Multiply the following :

(a) 9063 00 = **906300**

(b) 1580 00 = **158000**

(c) 2976 000 = **2976000**

(d) 3171 0 = **31710**

2. Multiply by using suitable grouping :

(a) 196 × 20 × 4 = 196 × (20 × 4)
= 196 × 80 = **15680**

(b) 125 × 378 × 8 = 125 × (378 × 8)
= 125 × 3024
= **378000**

3. Multiply the following :

(a)
$$\begin{array}{r} 819 \\ \times\ 37 \\ \hline 5733 \\ 2457\times \\ \hline 30303 \end{array}$$

(b)
$$\begin{array}{r} 672 \\ \times\ 437 \\ \hline 4704 \\ 2016\times \\ 2688\times\times \\ \hline 293664 \end{array}$$

4. Find the quotient and the remainder :

(a)
$$\begin{array}{r|l} 100\overline{)61728} & 617 \\ -600\downarrow & \\ \hline 172 & \\ -100\downarrow & \\ \hline 728 & \\ -700 & \\ \hline 28 & \end{array}$$

quotient = 617
remainder 28

(b)
$$\begin{array}{r|l} 1000\overline{)3796} & 3 \\ -3000 & \\ \hline 796 & \end{array}$$

quotient = 3
remainder = 796

5. Divide 698245 by 37 and check the answer :

$$\begin{array}{r|l} 37\overline{)678245} & 18871 \\ -37\downarrow & \\ \hline 328 & \\ -296\downarrow & \\ \hline 322 & \\ -296\downarrow & \\ \hline 264 & \\ -259\downarrow & \\ \hline 55 & \\ -37 & \\ \hline 18 & \end{array}$$

Checking :

Dividend = (Divisor × quotient) + Remainder

698245 = (37 × 18871) + 18

= 698227 + 18 = 698245

8. Multiples and Factors

EXERCISE 8.1

1. Write first five multiples of :

(a) 4 × 1, 4 × 2, 4 × 3, 4 × 4, 4 × 5
4, 8, 12, 16, 20

(b) 5 × 1, 5 × 2, 5 × 3, 5 × 4, 5 × 5
5, 10, 15, 20, 25

(c) 9 × 1, 9 × 2, 9 × 3, 9 × 4, 9 × 5
9, 18, 27, 36, 45

(d) 15 × 1, 15 × 2, 15 × 3, 15 × 4, 15 × 5
15, 30, 45, 60, 75

(e) 17 × 1, 17 × 2, 17 × 3, 17 × 4, 17 × 5
17, 34, 51, 68, 85

(f) 22 × 1, 22 × 2, 22 × 3, 22 × 4, 22 × 5
22, 44, 66, 88, 110

(g) 25 × 1, 25 × 2, 25 × 3, 25 × 4, 25 × 5
25, 50, 75, 100, 125

(h) 30 × 1, 30 × 2, 30 × 3, 30 × 4, 30 × 5
30, 60, 90, 120, 150

2. Write :

(a) 5th multiple of $9 = 9 \times 5 = 45$

(b) 7th multiple of $12 = 12 \times 7 = 84$

(c) 8th multiple of $18 = 18 \times 8 = 144$

(d) 12th multiple of $20 = 12 \times 20 = 240$

3. The multiple of 11 are 11, 22, 33, 44, 55, 66, 77, 88, 99, 110..... so all the multiples of 11 between 10 and 80 are 11, 22, 33, 44, 55 and 77.

4. 42 is net divided completely 4. So, 42 is not a multiple of 4.

5. 63 is divided completely by 9. So, 63 is multiple of 9.

6. 76 is not divide completely by 18. So, 76 is not a multiple of 18.

EXERCISE 8.2

1. Fill in the blanks :

(a) $4 \times 5 = 20$, So, 20 is a multiple of **4** and **5**.

(b) $8 \times 9 = 72$, So, 72 is a multiple of **8** and **9**.

(c) $7 \times 11 = 77$, So, 77 is a multiple of **7** and **11**.

(d) $12 \times 15 = 180$, So, 180 is a multiple of **12** and **15**.

2. Write two common multiples of :

(a) Multiples of 3 are 3, 6, 9, 12, **15**, 18, 21, 24, 27, **30**..... Multiples of 5 are 5, 10, **15**, 20, 25, **30**, 35, 40, 45, 50....
Hence, two common multiples of 3 and 5 are 15 and 30.

(b) The Multiples of 6 are **12**, 18, **24**, 30, 36 ....
The multiples of 12 are **12**, **24**, 36, 48, 60 .....
Two common multiples of 6 and 12 are 12 and 24.

(c) The multiples of 5 are 5, **10**, 15, **20**, 25 .....
The multiples of 10 are **10**, **20**, 30, 40, 50.....
Two common multiples of 5 and 10 are 10 and 20.

(d) The multiples of 8 are 8, 16, **24**, 32, 40, **48**, 56 .....
The multiples of 12 are 12, **24**, 36, **48**, 50, 72 .....
Two common multiples of 8 and 12 are 12 and 24.

(e) The multiples of 15 are 15, 30, 45, **60**, 75, 90, **120** .....
The multiples of 20 are 20, 40, **60**, 80, 100, **120**, 140.....
Two common multiples of 15 and 20 are 60 and 120.

(f) The multiples of 12 = 12, 24, 36, 48, **60**, 72, 84, 96, 108, **120**.....
The multiples of 15 = 15, 30, 45, **60**, 75, 90, 105, **120**, 135.....
Two common multiples of 12 and 15 are 60 and 120.

EXERCISE 8.3

1. Write the all factors of following numbers :

(a) 1, 2, 3, 6, 9, 18

(b) 1, 5, 25

(c) 1, 2, 3, 4, 6, 8, 12, 16, 24, 48

(d) 1, 2, 4, 8, 16, 32, 64

(e) 1, 3, 9, 27, 81

(f) 1, 2, 3, 4, 6, 8, 12, 16, 24, 32, 48, 96

(g) 1, 2, 3, 4, 6, 9, 12, 18, 36, 54, 108

(h) 1, 2, 3, 5, 6, 10, 15, 25, 30, 50, 75, 150

2. 31 is not divided completely by 5. So, 5 is not a factor of 31.

3. 72 is completely divided by 9. So, 9 is a factor of 72.

4. 108 is completely divided by 6. So, 6 is a factor of 108.

5. 68 is not divided completely by 8. So, 8 is not a factor of 68.

6. 147 is completely divided by 7. So, 7 is a factor of 147.

7. 142 is not completely divided by 4. So, 4 is not a factor of 142.

8. 150 is completely divided by 10. So, 10 is a factor of 150.

EXERCISE 8.4

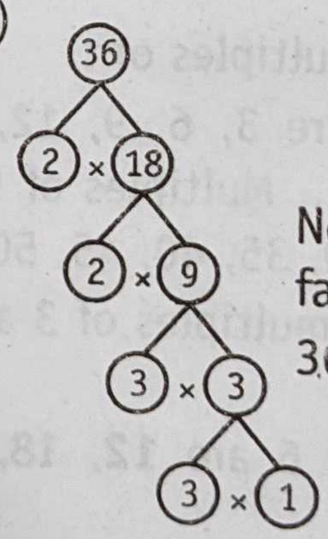
1. Find out the even numbers :
   2, 8, 12, 16, 28, 48
2. Find the odd numbers :
   3, 5, 9, 11, 13, 17, 19, 41
3. Find out the prime numbers :
   3, 7, 5, 17, 19, 23, 29, 41, 43
4. Find out the composite numbers :
   4, 6, 8, 9, 18, 26, 27, 48
5. Find out the co-prime numbers :
   (a) (7, 9) (c) (15, 17)
   (d) (16, 25) (f) (19, 23)

EXERCISE 8.5

1. Which of the following numbers are divisible by 2?
   Ones digit of
   (a) 7268 (b) 41396 (d) 61282
   (f) 21384 (g) 14160
   are 8, 6, 2, 4 and 0. So, they are divisible by 2.
2. Which of the following numbers are divisible by 3?
   Sums of digits of
   (a) 9861 (d) 5085
   (e) 4095 (g) 4863
   are divided by 3. So they are divisible by 3.
3. Which of the following numbers are divisible by 4?
   The numbers made by ones and tens of
   (a) 3728 (d) 3764 (e) 31724
   (f) 91600 (g) 7168
   are divisible by 4. So, they are divisible by 4.
4. Which of the following numbers are divisible by 5?
   Ones digits of
   (b) 7160 (c) 3855 (e) 51965
   (f) 31850 (h) 31785
   are 0 or 5. So, they are divisible by 5.
5. Which of the following numbers are divisible by 6?
   The numbers
   (b) 7878 (e) 8418 (f) 4008
   (g) 8700 (h) 6906
   are divisible by 2 and 3. So, they are divisible by 6.
6. Which of the following numbers are divisible by 8?
   The numbers made by ones, tens and hundreds of
   (a) 2952 (b) 6976 (d) 2008
   (e) 7658 (f) 2384 (g) 91008
   (h) 3768
   are divisible by 8. So, they are divisible by 8.
7. Which of the following numbers are divisible by 9?
   Sums of numbers
   (a) 11322 (c) 62865 (d) 29259
   (f) 91926 (h) 81963
   are divisible by 9. So, they are divisible by 9.

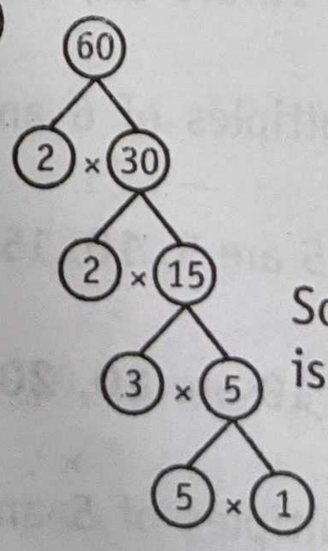
EXERCISE 8.6

1. Find out the prime-factorisation of the following numbers by tree method :
   (a)



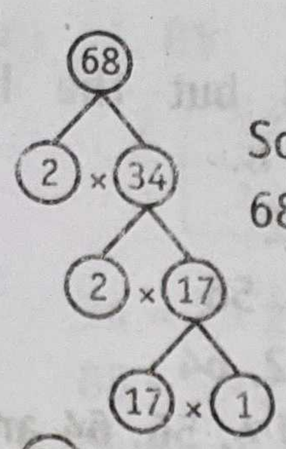
Now, write all the prime factor into product form,
$36 = 2 \times 2 \times 3 \times 3$.

   (b)



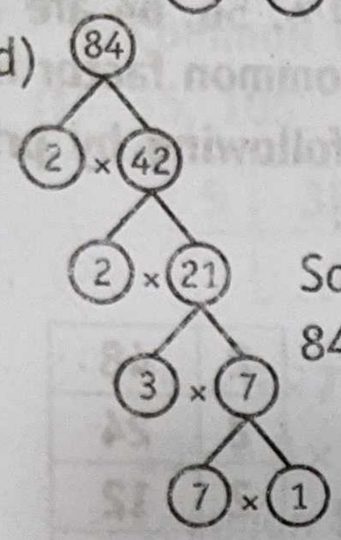
So, all the prime factors is $60 = 2 \times 2 \times 3 \times 5$.

(c)



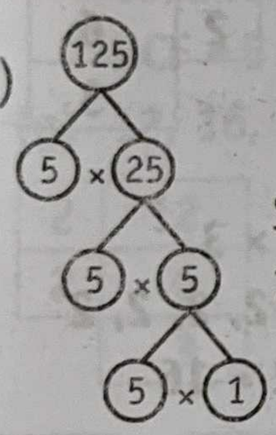
So, all the prime factor is
$68 = 2 \times 2 \times 17$.

(d)



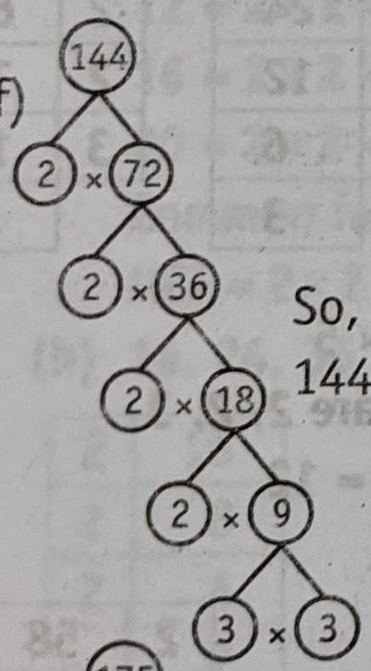
So, all the prime factor is
$84 = 2 \times 2 \times 3 \times 7$

(e)



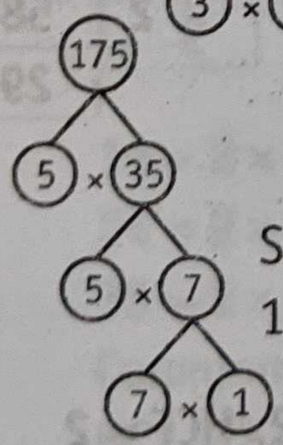
So, all the prime factor is
$125 = 5 \times 5 \times 5$.

(f)



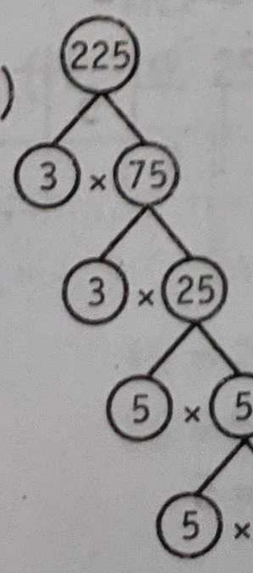
So, all the prime factor is
$144 = 2 \times 2 \times 2 \times 2 \times 3 \times 3$.

(g)



So, all the prime factor is
$175 = 5 \times 5 \times 7$.

(h)



So, all the prime factor is
$225 = 3 \times 3 \times 5 \times 5$.

2. Find out the prime-factgorisation of the following numbers by division method :

(a) 144

2	144
2	72
2	36
2	18
3	9
	3

So, $144 = 2 \times 2 \times 2 \times 2 \times 3 \times 3$

(b) 256

2	256
2	128
2	64
2	32
2	16
2	8
2	4
	2

So, $256 = 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2$

(c) 350

2	350
5	175
5	35
	7

So, $350 = 2 \times 5 \times 5 \times 7$

(d) 400

2	400
2	200
2	100
2	50
5	25
	5

So, $400 = 2 \times 2 \times 2 \times 2 \times 5 \times 5$

(e) 522

2	522
3	261
3	87
	29

So, $522 = 2 \times 3 \times 3 \times 29$.

(f) 640

2	640
2	320
2	160
2	80
2	40
2	20
2	10
	5

So, $640 = 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 5$

(g)

2	1024
2	512
2	256
2	128
2	64
2	32
2	16
2	8
2	4
	2

So, $1024 = 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2$

(h)

2	1250
5	625
5	125
5	25
	5

So, $1250 = 2 \times 5 \times 5 \times 5 \times 5$

EXERCISE 8.7

1. Find the HCF of the following by common factor method :

(a) $12 = 1, 2, 3, 4, 6, 12$

$18 = 1, 2, 3, 6, 9, 18$

Common factors of 12 and 18 are 1, 2, 3, 6 but the highest common factor is 6.

(b) $16 = 1, 2, 4, 8, 16$

$24 = 1, 2, 3, 4, 6, 8, 12, 24$

Common factors of 16 and 24 are 1, 2, 4, 8 but the highest common factor is 8.

(c) $26 = 1, 2, 3$

$39 = 1, 3, 13$

Common factors of 26 and 29 is 13 it is only one common factor

(d) $35 = 1, 5, 7, 35$

$70 = 1, 5, 7, 10, 14, 35, 70$

$105 = 1, 3, 5, 7, 25, 35, 105$

Highest common factor is 35

(e) $16 = 1, 2, 4, 8, 16$

$48 = 1, 2, 3, 4, 6, 8, 48$

$56 = 1, 2, 4, 7, 8, 56$

Common factors of 16, 48 and 56 are 1, 2, 4, 8 but the highest common factor is 8.

(f) $42 = 1, 2, 6, 7, 42$

$56 = 1, 2, 4, 7, 8, 56$

$64 = 1, 2, 4, 8, 32, 64$

Common factor of 4, 56, 64 are 1, 2, but the highest common factor is 2.

2. Find the HCF of the following by prime-factorisation method :

(a) 16, 48

2	16
2	8
2	4
	2

2	48
2	24
2	12
2	6
	3

$16 = 2 \times 2 \times 2 \times 2$

$48 = 2 \times 2 \times 2 \times 2 \times 3$

Common factor are 2, 2, 2, 2

HCF $= 2 \times 2 \times 2 \times 2 = 16$

(b) 24, 60

2	24
2	12
2	6
	3

2	60
2	30
3	15
	5

$24 = 2 \times 2 \times 3$

$60 = 2 \times 2 \times 3 \times 5$

Common factor are 2, 2, 3

HCF $= 2 \times 2 \times 3 = 12$

(c) 28, 58

2	28
2	14
	7

2	58
	29

$28 = 2 \times 2 \times 7$

$58 = 2 \times 29$

Common factor is 2, HCF = 2

(d) 45, 85

5	45
3	9
	3

5	85
	17

$45 = 5 \times 3 \times 3$

$85 = 5 \times 17$

Common factor is 5, HCF = 5

(e) 34, 85

2	37
	17

5	85
	17

$34 = 2 \times 17$

$85 = 5 \times 17$

Common factor is 17, HCF = 17

(f) 35, 105

5	35
	7

5	108
3	21
	7

$35 = 5 \times 7$

$105 = 5 \times 3 \times 7$

Common factor are 5, 7

HCF = $5 \times 7 = 35$

(g) 12, 16, 20

2	12
2	6
	3

2	16
2	8
2	4
	2

2	20
2	10
	5

$12 = 2 \times 2 \times 3$,

$16 = 2 \times 2 \times 2 \times 2$

$20 = 2 \times 2 \times 5$

Common factor are 2, 2

HCF = $2 \times 2 = 4$

(h) 16, 24, 36

2	16
2	8
2	4
	2

2	24
2	12
2	6
	3

2	36
2	18
3	9
	3

$16 = 2 \times 2 \times 2 \times 2$

$24 = 2 \times 2 \times 2 \times 3$

$36 = 2 \times 2 \times 3 \times 3$

Common factor are 2, 2

HCF = $2 \times 2 = 4$

(i) 10, 25, 45

2	10
	5

5	25
	5

5	45
3	9
	3

$10 = 2 \times 5$

$25 = 5 \times 5$

$45 = 5 \times 3 \times 3$

Common factor is 5, HCF = 5

(j) 14, 42, 56

2	14
	7

2	42
3	21
	7

2	56
2	28
2	14
	7

$14 = 2 \times 7$

$42 = 2 \times 3 \times 7$

$56 = 2 \times 2 \times 2 \times 7$

Common factors are 2, 7,

HCF = $2 \times 7 = 14$

(k) 21, 28, 35

3	21
	7

2	28
2	14
	7

5	35
	7

$21 = 3 \times 7$

$28 = 2 \times 2 \times 7$

$35 = 5 \times 7$

Common factor is 7 HCF = 7

(l) 65, 85, 95

5	65
	13

5	85
	17

5	95
	19

$65 = 5 \times 13$

$85 = 5 \times 17$

$95 = 5 \times 19$

Common factor is 5 HCF = 5

EXERCISE 8.8

1. Find the LCM of the following by multiple method :

(a) Multiples of 9 are 9, 18, 27, **36**, 45, 54, 63, **72**, 81, 90, ...

Multiples of 12 are 12, 24, **36**, 48, **60**, **72**, 84, 96, 108, ...

Multiples of 9 and 12 are 36 and 72, but least common multiples is 36.

(b) Multiples of 10 are 10, 20, **30**, 40, 50, **60**, 70, 80, **90**, 100 ....

Multiples of 15 are 15, **30**, 45, **60**, 75, **90**, 105, 120, 135, 150...

Multiples of 10 and 15 are 30, 60 and 90 but least common multiples is 30.

(c) Multiples of 15 are 15, 30, 45, 60, 75, **90**, 105, 120, 135, 150....

Multiples of 18 are 18, 36, 54, 72, **90**, 108, 126, 144, 162, 180....

Multiples of 15 and 18 are 90. Hence, LCM of 15 and 18 are 90.

(d) Multiples of 16 are 16, 32, 48, 64, **80**, 96, 112, 128, 144, **160**.....

Multiples of 20 are 20, 40, 60, **80**, 100, 120, 140, **160**, 180, 200....

Multiples of 16 and 20 are 80 and 160, but least common multiples is 80.

(e) Multiples of 3 are 3, 6, 9, 12, 15, 18, 21, 24, 27, **30**.....

Multiples of 10 are 10, 20, **30**, 40, 50, 60, 70, 80, 90, 100....

Multiples of 3 and 10 are 30. Hence, LCM of 3 and 10 are 30.

(f) Multiples of 5 are 5, 10, **15**, 20, 25, **30**, 35, 40, **45**, 50....

Multiples of 15 are **15**, **30**, **45**, 60, 75, 90, 105, 120, 135, 150....

Multiple of 5 and 15 are 30 and 45, but least common multiples is 15.

(g) Multiples of 3 are 3, **6**, 9, 12, 18, 21, **24**, 27, 30.....

Multiples of 6 are 6, 12, 18, **24**, 30, 36, 42, 48, 54, 60....

Multiples of 8 are 8, 16, **24**, 32, 40, 48, 56, 64, 75, 80...

Multiple of 3, 6, 8 are 24. Hence, LCM of 3, 6, 8 are 24.

(h) Multiples of 3 are 3, 6, 9, **12**, 15, 18, 21, **24**, 27, 30.....

Multiples of 4 are 4, 8, **12**, 16, 20, **24**, 28, 32, 36, 40.....

Multiples of 6 are 6, **12**, 18, **24**, 30, 36, 42, 48, 54, 60....

Multiples of 3, 4 and 6 are 12, and 24, but least common multiples is 12.

(i) Multiples of 4 are 4, 8, 12, 16, 20, **24**, 28, 32, 36, 40....

Multiples of 8 are 8, 16, **24**, 32, 40, 48, 56, 64, 72, 80.....

Multiples of 12 are 12, **24**, 36, 48, 60, 72, 84, 96, 108, 120...

Multiples of 4, 8 and 12 are 24. Hence, LCM of 4, 8, 12, are 24.

(j) Multiples of 10 are 10, 20, 30, 40, 50, 60, 70, 80, 90, **100**....

Multiples of 20 are 20, 40, 60, 80, **100**, 120, 140, 160, 180, 200...

Multiples of 25 are 25, 50, 75, **100**, 125, 150, 175, 200, 225, 250.....

Multiples of 10, 20 and 25 are 100. Hence, LCM of 10, 20, 25 are 100.

(k) Multiples of 6 are 6, 12, 18, 24, 30, 36, 42, **48**, 54, 60...

Multiples of 8 are 8, 16, 24, 32, 40, **48**, 56, 64, 72, 80....

Multiples of 48 are **48**, 96, 144, 192, 240, 288, 336, 384, 432, 480.....

Multiples of 6, 8 and 48 are 48. Hence, LCM of 6, 8, 48 are 48.

(l) Multiples of 6 are 6, 12, 18, 24, 30, 36, 42, **48**, 54, 60.....

Multiples of 8 are 8, 16, 24, 32, 40, **48**, 56, 64, 72, 80....

Multiples of 16 are 16, 32, **48**, 64, 80, 96, 112, 128, 144, 160.....

Multiples of 6, 8 and 16 are 48, Hence, LCM of 6, 8, 6 are 48.

2. Find the LCM of the following by prime-factorisation method :

(a) 10, 25

2	10
	5

5	25
	5

$10 = 2 \times 5$

$25 = 5 \times 5$

$LCM = 5 \times 5 \times 2 = 50$

(b) 12, 30

2	12
2	6
	3

2	30
3	15
	5

$12 = 2 \times 2 \times 3$

$30 = 2 \times 3 \times 5$

$LCM = 2 \times 3 \times 2 \times 5 = 60$

(c) 25, 45

5	25
	5

5	45
3	9
	3

$25 = \mathbf{5} \times 5$

$45 = \mathbf{5} \times 3 \times 3$

LCM $= 5 \times 5 \times 3 \times 3 = 225$

(d) 16, 24

2	16
2	8
2	4
	2

2	24
2	12
2	6
	3

$16 = \mathbf{2} \times \mathbf{2} \times \mathbf{2} \times 2$

$24 = \mathbf{2} \times \mathbf{2} \times \mathbf{2} \times 3$

LCM $= 2 \times 2 \times 2 \times 2 \times 3 = 48$

(e) 40, 50

2	40
2	20
2	10
	5

2	50
5	25
	5

$40 = \mathbf{2} \times 2 \times 2 \times \mathbf{5}$

$50 = \mathbf{2} \times 5 \times \mathbf{5}$

LCM $= 2 \times 5 \times 2 \times 2 \times 5 = 200$

(f) 35, 105

5	35
	7

5	105
3	21
	7

$35 = \mathbf{5} \times \mathbf{7}$

$105 = \mathbf{5} \times 3 \times \mathbf{7}$

LCM $= 5 \times 7 \times 3 = 105$

(g) 6, 8, 12

2	6
	3

2	8
2	4
	2

2	12
2	6
	3

$6 = \mathbf{2} \times 3$

$8 = \mathbf{2} \times 2 \times 2$

$12 = \mathbf{2} \times 2 \times 3$

LCM $= 2 \times 2 \times 2 \times 3 = 24$

(h) 12, 15, 20

2	12
2	6
	3

3	15
	5

2	20
2	10
	5

$12 = 2 \times 2 \times \mathbf{3}$

$15 = \mathbf{3} \times 3$

$20 = 2 \times 2 \times 5$

LCM $= 2 \times 3 \times 5 \times 2 = 60$

(i) 12, 24, 48

2	12
2	6
	3

2	24
2	12
2	6
	3

2	48
2	24
2	12
2	6
	3

$12 = \mathbf{2} \times \mathbf{2} \times \mathbf{3}$

$24 = \mathbf{2} \times \mathbf{2} \times 2 \times \mathbf{3}$

$48 = \mathbf{2} \times \mathbf{2} \times 2 \times 2 \times \mathbf{3}$

LCM $= 2 \times 2 \times 3 \times 2 \times 2 = 48$

(j) 25, 40, 60

5	25
	5

2	40
2	20
2	10
	5

2	60
2	30
3	15
	5

$25 = \mathbf{5} \times 5$

$40 = 2 \times 2 \times 2 \times \mathbf{5}$

$60 = 2 \times 2 \times 3 \times \mathbf{5}$

LCM $= 5 \times 5 \times 2 \times 2 \times 2 \times 3 = 600$

(k) 21, 35, 105

3	21
	7

5	35
	7

5	105
3	21
	7

$21 = 3 \times \mathbf{7}$

$35 = 5 \times \mathbf{7}$

$105 = 5 \times 3 \times \mathbf{7}$

LCM $= 7 \times 5 \times 3 = 105$

(l) 8, 48, 60

2	8
2	4
	2

2	48
2	24
2	12
2	6
	3

2	60
2	30
3	15
	5

$8 = 2 \times 2 \times 2$

$48 = 2 \times 2 \times 2 \times 2 \times 3$

$60 = 2 \times 2 \times 3 \times 5$

$LCM = 2 \times 2 \times 2 \times 2 \times 3 \times 5 = 240$

Half yearly examination Paper

1. Write the number names of :

(a) Seven lakh twenty eight thousand five hundred sixty seven

(b) Nine lakh two thousand four hundred fifty six

2. Write the expanded form of :

(a) $200000 + 10000 + 6000 + 700 + 90 + 3$

(b) $800000 + 4000 + 500 + 90 + 6$

3. 516942, 81436, 864853, 912764

4. (a) 72900 (b) 81500 (c) 4285100

5. Add the following :

(a)

	L	T-th	Th	H	T	O
	②	①	②	②	①	
	2	8	5	6	2	5
	3	7	2	5	9	6
+	2	8	9	7	8	7
	9	4	8	0	0	8

(b)

	L	T-th	Th	H	T	O
	①	①	①	②	①	
	9	2	8	5	6	4
	2	8	5	3	7	6
+	9	1	2	8	9	8
	21	2	6	8	3	8

6. Subtract the following :

(a)

	L	T-th	Th	H	T	O
	⑧	⑫	⑦	⑮	②	⑭
	~~9~~	~~2~~	~~8~~	~~5~~	~~3~~	~~4~~
−	6	3	5	9	2	8
	2	9	2	6	0	6

(b)

	L	T-th	Th	H	T	O
	④	⑫	⑦	⑨	⑩	⑩
	~~5~~	~~2~~	~~8~~	~~0~~	~~1~~	~~0~~
−	3	8	5	9	6	5
	1	4	2	0	4	5

7. Multiply by using suitable regrouping :

(a) $372 \times 125 \times 4 = 372 \times (125 \times 4)$

$= 372 \times 500 = 186000$

(b) $25 \times 912 \times 8 = 25 \times (912 \times 8)$

$= 25 \times 7296 = 182400$

8. Multiply the following :

(a) $629 \times 3000 = (629 \times 3)\ 1000$

$= 1887 \times 1000 = 1887000$

$= \mathbf{1887000}$

(b) $528 \times 7000 = (528 \times 7) \times 1000$

$= 3696 \times 1000 = 3696000$

$= \mathbf{3696000}$

9. Multiply the following :

(a)

	3	7	2	8
		×	5	9
	3	3	5	5	2
1	8	6	4	0	×
2	1	9	9	5	2

(b)

	9	1	8	4	
	×	3	7	6	
5	4	8	0	4	
6	4	2	8	8	×
2	7	5	5	2	×	×
3	4	5	2	8	8	4

10. 785694 by 7

$7\overline{)785694}\ 112242$

-7

8

-7

15

-14

16

-14

29

-28

14

-14

0

Checking :

Dividend = (Divisor × quotient) + Remainder

$785694 = (7 \times 112242) + 0$

$= 785694$

11. $7 \times 1, 7 \times 2, 7 \times 3, 7 \times 4, 7 \times 5$

7, 14, 21, 28, 35

$19 \times 1, 19 \times 2, 19 \times 3, 19 \times 4, 19 \times 5$

19, 38, 57, 76, 95

12. $25 = 1, 5, 25$

$48 = 1, 2, 3, 4, 6, 8, 12, 16, 24, 48$

13. 144

2	144
2	72
2	36
2	18
3	9
	3

So, $144 = 2 \times 2 \times 2 \times 2 \times 3 \times 3$

1250

2	1250
5	625
5	125
5	25
	5

So, $1250 = 2 \times 5 \times 5 \times 5 \times 5$

14. 35

5	35
	7

$35 = 5 \times 7$

70

2	70
5	35
	7

105

5	105
3	21
	7

$70 = 2 \times 5 \times 7$

$105 = 5 \times 3 \times 7$ HCF $= 5 \times 7 = 35$

15. Multiples of 6 are 6, 12, 18, 24, 30, 36, 42, **48**, 54, 60...

Multiples of 8 are 8, 16, 24, 32, 40, **48**, 56, 64, 72, 80....

Multiples of 48 are **48**, 96, 144, 192, 240, 288, 336, 384, 432, 480.....

Multiples of 6, 8 and 48 are 48. Hence, LCM of 6, 8, 48 are 48.

16. 25, 60, 120, 144

5	25	2	60	2	120	2	144
	5	2	30	2	60	2	72
		3	15	2	30	2	36
			5	3	15	2	18
					5	3	9
							3

$25 = 5 \times 5$

$60 = 2 \times 2 \times 3 \times 5$

$120 = 2 \times 2 \times 2 \times 3 \times 5$

$144 = 2 \times 2 \times 2 \times 2 \times 3 \times 3$

LCM $= 5 \times 5 \times 2 \times 2 \times 2 \times 3 \times 3 =$ **3600**

17. Cost of 25 table and chairs sets

$= ₹\ 612500$

Cost of 1 table and chair set

$= ₹\ 612500 \div 25$

$= ₹\ 24500$

So, cost of 1 table and chair set is ₹ 24500.

18. Cost of one laptop = ₹ 38960

Cost of 128 laptops = ₹ 38960 × 128

= ₹ 4986880

Hence, cost of 128 laptops are ₹ 4986880.

19.

	②②②①
Number of wheat bags =	58965
Number of rices bags =	37859
Number of bazra bags =	+48593
So, Total Number of bags =	145717

Hence, total number of bags in godown is 145417.

20.

	①① ①
Population of town =	126915
Number of men =	+118635
Number of women =	245550
So, total number both =	

Now total population = 672850 − 245550

= 427300

Hence, total number remaining children 427300.

9. Fractions

EXERCISE 9.1

1. Write the numerator and denominator of the following :

(a) N − 5, D − 9 (b) N − 16, D − 23

(c) N − 17, D − 19 (d) N − 25, D − 31

(e) N − 19, D − 53 (f) N − 23, D − 47

(g) N − 33, D − 50 (h) N − 37, D − 60

2. Write the four equivalent fractions for the following fractions :

(a) $\frac{2}{5} = \frac{2}{5} \times \frac{2}{2}, \frac{2}{5} \times \frac{3}{3}, \frac{2}{5} \times \frac{4}{4}, \frac{2}{5} \times \frac{5}{5}$

$= \frac{4}{10}, \frac{6}{15}, \frac{8}{20}, \frac{10}{25}$

(b) $\frac{3}{7} = \frac{3}{7} \times \frac{2}{2}, \frac{3}{7} \times \frac{3}{3}, \frac{3}{7} \times \frac{4}{4}, \frac{3}{7} \times \frac{5}{5}$

$= \frac{6}{14}, \frac{9}{21}, \frac{12}{28}, \frac{15}{35}$

(c) $\frac{5}{9} = \frac{5}{9} \times \frac{2}{2}, \frac{5}{9} \times \frac{3}{3}, \frac{5}{9} \times \frac{4}{4}, \frac{5}{9} \times \frac{5}{5}$

$= \frac{10}{18}, \frac{15}{27}, \frac{20}{36}, \frac{25}{45}$

(d) $\frac{6}{11} = \frac{6}{11} \times \frac{2}{2}, \frac{6}{11} \times \frac{3}{3}, \frac{6}{11} \times \frac{4}{4}, \frac{6}{11} \times \frac{5}{5}$

$= \frac{12}{22}, \frac{18}{33}, \frac{24}{44}, \frac{30}{55}$

(e) $\frac{13}{14} = \frac{13}{14} \times \frac{2}{2}, \frac{13}{14} \times \frac{3}{3}, \frac{13}{14} \times \frac{4}{4}, \frac{13}{14} \times \frac{5}{5}$

$= \frac{26}{28}, \frac{39}{42}, \frac{52}{56}, \frac{65}{70}$

(f) $\frac{15}{16} = \frac{15}{16} \times \frac{2}{2}, \frac{15}{16} \times \frac{3}{3}, \frac{15}{16} \times \frac{4}{4}, \frac{15}{16} \times \frac{5}{5}$

$= \frac{30}{32}, \frac{45}{48}, \frac{60}{64}, \frac{75}{80}$

(g) $\frac{3}{17} = \frac{3}{17} \times \frac{2}{2}, \frac{3}{17} \times \frac{3}{3}, \frac{3}{17} \times \frac{4}{4}, \frac{3}{17} \times \frac{5}{5}$

$= \frac{6}{34}, \frac{9}{51}, \frac{12}{68}, \frac{15}{85}$

(h) $\frac{4}{19} = \frac{4}{19}\times\frac{2}{2}, \frac{4}{19}\times\frac{3}{3}, \frac{4}{19}\times\frac{4}{4}, \frac{4}{19}\times\frac{5}{5}$

$= \frac{8}{38}, \frac{12}{57}, \frac{16}{76}, \frac{20}{95}$

3. Fill correct equivalents in the following blanks :

(a) $\frac{5}{10} = \frac{1}{2}$ (b) $\frac{7}{8} = \frac{14}{16}$

(c) $\frac{5}{15} = \frac{10}{30}$ (d) $\frac{3}{7} = \frac{9}{21}$

(e) $\frac{1}{4} = \frac{4}{16}$ (f) $\frac{5}{7} = \frac{25}{35}$

(g) $\frac{3}{4} = \frac{15}{20}$ (h) $\frac{9}{7} = \frac{27}{3}$

4. Write the two equivalent fractions for the following by dividing :

(a) $\frac{12\div2}{16\div2} = \frac{6\div2}{8\div2} = \frac{3}{4}$

(b) $\frac{14\div2}{42\div2} = \frac{7\div7}{21\div7} = \frac{1}{3}$

(c) $\frac{36\div2}{40\div2} = \frac{18\div2}{20\div2} = \frac{9}{10}$

(d) $\frac{20\div2}{60\div2} = \frac{10\div10}{30\div10} = \frac{1}{3}$

(e) $\frac{40\div2}{72\div2} = \frac{20\div2}{36\div2} = \frac{10}{18}$

(f) $\frac{18\div2}{24\div2} = \frac{9\div3}{12\div3} = \frac{3}{4}$

(g) $\frac{16\div2}{24\div2} = \frac{8\div4}{12\div4} = \frac{2}{3}$

(h) $\frac{40\div10}{100\div10} = \frac{4\div2}{10\div2} = \frac{2}{5}$

5. Check which of the following are equivalent fractions :

(a) On cross-multiplication,

$\frac{5}{10} \times \frac{15}{30}$

$5\times30 = 150$ $10\times15 = 150$

Since, both products are equal.

Hence, $\frac{5}{10}$ and $\frac{15}{30}$ are equivalent fractions.

(b) On cross-multiplication,

$\frac{9}{16} \times \frac{18}{32}$

$9\times32 = 288$ $16\times18 = 288$

Since, both products are equal.

So, this is an equivalent fractions.

(c) On cross-multiplication

$\frac{4}{5} \times \frac{12}{20}$

$4\times20 = 80$ $5\times12 = 60$

Since, both products are not equal.

So, this is not a equivalent fractions.

(d) On cross-multiplication

$\frac{16}{20} \times \frac{15}{30}$

$16\times30 = 480$ $20\times15 = 300$

Since, both products are not equal.

So, this is not a equivalent fractions.

(e) On cross-multiplication

$\frac{4}{8} \times \frac{16}{30}$

$4\times30 = 120$ $8\times16 = 128$

Since, both products are not equal.

So, this is not a equivalent fractions.

(f) On cross-multiplication

$\frac{9}{16} \times \frac{27}{48}$

$9\times48 = 432$ $16\times27 = 432$

Since, both products are equal.

So, this is an equivalent fractions.

(g) On cross-multiplication

$\frac{5}{10} \times \frac{18}{36}$

$5\times36 = 180$ $10\times18 = 180$

Since, both products are equal.

So, this is an equivalent fractions.

(h) On cross-multiplication

$\frac{9}{10} \times \frac{27}{40}$

$9\times40 = 360$ $10\times27 = 270$

Since, both products are not equal.

So, this is not a equivalent fractions.

EXERCISE 9.2

1. Which of the following fractions are in the lowest form?

(b) $\frac{17}{23}$ (d) $\frac{8}{19}$ (e) $\frac{19}{27}$

(f) $\frac{17}{51}$ (h) $\frac{13}{15}$

2. Reduce the following fractions to the lowest form :

(a) $\frac{25}{35}$

Find the HCF of 25 and 35.

5	25
	5

5	35
	7

$25 = \mathbf{5} \times 5$ $35 = \mathbf{5} \times 7$

So, HCF = 5 Now, $\frac{25}{35} = \frac{25 \div 5}{35 \div 5} = \frac{5}{7}$

(b) $\frac{40}{45}$

2	40
2	20
2	10
	5

3	45
3	15
	5

$40 = 2 \times 2 \times 2 \times 5$ $45 = 3 \times 3 \times 5$

So, HCF = 5 Now, $\frac{40}{45} = \frac{40 \div 5}{45 \div 5} = \frac{8}{9}$

(c) $\frac{80}{95}$

2	80
2	40
2	20
2	10
	5

5	95
	19

$95 = 5 \times 19$

$80 = 2 \times 2 \times 2 \times 2 \times 5$

So, HCF = 5 Now, $\frac{80}{95} = \frac{80 \div 5}{95 \div 5} = \frac{16}{19}$

(d) $\frac{49}{63}$

7	49
	7

7	63
	9

$49 = 7 \times 7$ $63 = 7 \times 9$

HCF = 7 Now, $\frac{49 \div 7}{63 \div 7} = \frac{7}{9}$

(e) $\frac{44}{66}$

2	44
2	22
	11

2	66
3	33
	11

$44 = 2 \times 2 \times 11$ $66 = 2 \times 3 \times 11$

HCF = 11 Now, $\frac{44 \div 11}{66 \div 11} = \frac{4 \div 2}{6 \div 2} = \frac{2}{3}$

(f) $\frac{20}{35}$

2	20
2	10
	5

5	35
	7

$20 = 2 \times 2 \times 5$ $35 = 5 \times 7$

HCF = 5 Now, $\frac{20 \div 5}{35 \div 5} = \frac{4}{7}$

(g) $\frac{117}{169}$

13	117
	9

13	69
	13

$117 = 13 \times 9$ $169 = 13 \times 13$

HCF = 13 Now, $\frac{117 \div 13}{169 \div 13} = \frac{9}{13}$

(h) $\frac{16}{144}$

2	16
2	8
2	4
	2

2	144
8	72
	9

$16 = 2 \times 2 \times 2 \times 2$ $144 = 2 \times 8 \times 9$

HCF = 2 Now, $\frac{16 \div 2}{144 \div 2} = \frac{8 \div 8}{72 \div 8} = \frac{1}{9}$

EXERCISE 9.3

1. Separate like and unlike set of fraction from the following :

(a) like (b) unlike (c) unlike
(d) unlike (e) like (f) unlike
(g) like (h) like

2. Separate proper and improper fraction from the following fractions :

(a) P (b) Im (c) Im (d) P

(e) P (f) P (g) Im (h) Im

3. Convert the following into improper fractions :

(a) $2\frac{3}{5}$

Improper fraction = $\frac{\text{Whole number} \times \text{Denominator} + \text{Numerator}}{\text{Denominator}}$

$= \frac{2 \times 5 + 3}{5} = \frac{10 + 3}{5} = \frac{13}{5}$

Hence, $2\frac{3}{5} = \frac{13}{5}$

(b) $3\frac{1}{8} = \frac{3 \times 8 + 1}{8} = \frac{24 + 1}{8} = \frac{25}{8}$

Hence, $3\frac{1}{8} = \frac{25}{8}$

(c) $5\frac{2}{7} = \frac{5 \times 7 + 2}{7} = \frac{35 + 2}{7} = \frac{37}{7}$

Hence, $5\frac{2}{7} = \frac{37}{7}$

(d) $4\frac{3}{10} = \frac{4 \times 10 + 3}{10} = \frac{40 + 3}{10} = \frac{43}{10}$

Hence, $4\frac{3}{10} = \frac{43}{10}$

(e) $3\frac{2}{5} = \frac{3 \times 5 + 2}{5} = \frac{15 + 2}{5} = \frac{17}{5}$

Hence, $3\frac{2}{5} = \frac{17}{5}$

(f) $6\frac{5}{12} = \frac{6 \times 12 + 5}{12} = \frac{72 + 5}{12} = \frac{77}{12}$

Hence, $6\frac{5}{12} = \frac{77}{12}$

(g) $7\frac{1}{6} = \frac{7 \times 6 + 1}{6} = \frac{42 + 1}{6} = \frac{43}{6}$

Hence, $7\frac{1}{6} = \frac{43}{6}$

(h) $4\frac{5}{9} = \frac{4 \times 9 + 5}{9} = \frac{36 + 5}{9} = \frac{41}{9}$

Hence, $4\frac{5}{9} = \frac{41}{9}$

4. Convert the following into mixed fractions :

(a) $\frac{29}{5}$

$= 5\frac{4}{5}$

$5\overline{)29}\,5$, -25, 4

(b) $\frac{44}{9}$

$= 4\frac{8}{9}$

$9\overline{)44}\,4$, -36, 8

(c) $\frac{49}{8}$

$= 6\frac{1}{8}$

$8\overline{)49}\,6$, -48, 1

(d) $\frac{71}{12}$

$= 5\frac{11}{12}$

$12\overline{)71}\,5$, -60, 11

(e) $\frac{68}{13}$

$= 5\frac{3}{13}$

$13\overline{)68}\,5$, -65, 3

(f) $\frac{47}{12}$

$= 3\frac{11}{12}$

$12\overline{)47}\,3$, -36, 11

(g) $\frac{76}{11}$

$= 6\frac{10}{11}$

$11\overline{)76}\,6$, -66, 10

(h) $\frac{104}{11}$

$= 9\frac{5}{11}$

$11\overline{)104}\,9$, -99, 5

EXERCISE 9.4

1. Fill in the blanks with '>', '<' or '=' :

(a) < (b) < (c) <

(d) < (e) < (f) >

2. Compare the following fractions :

(a) $\frac{7}{9}, \frac{5}{8}$

$\frac{7}{9} > \frac{5}{8}$, Since $7 > 5$

Hence, $\frac{7}{9}$ greater than $\frac{5}{8}$

(b) $\frac{3}{7}, \frac{5}{11}$

$\frac{3}{7} < \frac{5}{11}$, Since $3 < 5$

Hence, $\frac{3}{7}$ less than $\frac{5}{11}$

(c) $\frac{4}{5}, \frac{11}{13}$

$\frac{4}{5} < \frac{11}{13}$, Since $4 < 11$

Hence, $\frac{4}{5}$ less than $\frac{11}{13}$

(d) $\frac{9}{17}, \frac{13}{19}$

$\frac{9}{17} < \frac{3}{19}$, Since $9 < 13$

Hence, $\frac{9}{17}$ less than $\frac{13}{19}$

(e) $\frac{17}{23}, \frac{19}{25}$

$\frac{17}{25} < \frac{19}{25}$, Since $17 < 19$

Hence, $\frac{17}{25}$ less than $\frac{19}{25}$

(f) $\frac{11}{16}, \frac{13}{15}$

$\frac{11}{16} < \frac{13}{15}$, Since $11 < 13$

Hence, $\frac{11}{16}$ less than $\frac{13}{15}$

3. Arrange the following fractions in the ascending order :

(a) $\frac{1}{4}, \frac{5}{12}, \frac{6}{10}, \frac{3}{6}$

Give fractions are unlike fractions. So, we convert these fractions into like fractions.

So, first we find LCM of denominators.

So, $\frac{1}{4} = \frac{1 \times 15}{4 \times 15} = \frac{15}{60}$, $\frac{5}{12} = \frac{5 \times 5}{12 \times 5} = \frac{25}{60}$

$\frac{6}{10} \times \frac{6}{6} = \frac{36}{60}$, $\frac{3}{6} = \frac{3 \times 10}{6 \times 10} = \frac{30}{60}$

So, $\frac{15}{60} < \frac{25}{60} < \frac{30}{60} < \frac{36}{60} = \frac{1}{4} < \frac{5}{12} < \frac{3}{6} < \frac{6}{10}$

(b) $\frac{1}{4}, \frac{5}{10}, \frac{8}{15}, \frac{3}{8}$

LCM is $= 120$

So, $\frac{1}{4} = \frac{1 \times 30}{4 \times 30} = \frac{30}{120}, \frac{5}{10} = \frac{5 \times 12}{10 \times 12} = \frac{60}{120}$

$\frac{8}{15} = \frac{8 \times 8}{15 \times 8} = \frac{64}{120}, \frac{3}{8} = \frac{3 \times 15}{8 \times 15} = \frac{45}{120}$

So, $\frac{30}{120} < \frac{45}{120} < \frac{60}{120} < \frac{64}{120}$

$= \frac{1}{4} < \frac{3}{8} < \frac{5}{10} < \frac{8}{15}$

(c) $\frac{2}{3}, \frac{13}{20}, \frac{4}{10}, \frac{11}{15}$

LCM is $= 60$

So, $\frac{2}{3} = \frac{2 \times 20}{3 \times 20} = \frac{40}{60}, \frac{13}{20} = \frac{13 \times 3}{20 \times 3} = \frac{39}{60}$

$\frac{4}{10} = \frac{4 \times 6}{10 \times 6} = \frac{24}{60}, \frac{11}{15} = \frac{11 \times 4}{15 \times 4} = \frac{44}{60}$

So, $\frac{24}{60} < \frac{39}{60} < \frac{40}{60} < \frac{44}{60}$

$= \frac{4}{10} < \frac{13}{20} < \frac{2}{3} < \frac{11}{5}$

(d) $\frac{3}{14}, \frac{5}{21}, \frac{5}{7}, \frac{11}{42}$

LCM is $= 42$

So, $\frac{3}{14} = \frac{3 \times 3}{14 \times 3} = \frac{9}{42}, \frac{5}{21} = \frac{5 \times 2}{21 \times 2} = \frac{10}{42}$

$\frac{5}{7} = \frac{5 \times 6}{7 \times 6} = \frac{30}{42}, \frac{11}{42} = \frac{11 \times 1}{42 \times 1} = \frac{11}{42}$

So, $\frac{9}{42} < \frac{10}{42} < \frac{11}{42} < \frac{30}{42}$

$= \frac{3}{14} < \frac{5}{21} < \frac{11}{42} < \frac{5}{7}$

(e) $\frac{3}{8}, \frac{4}{5}, \frac{3}{10}, \frac{6}{15}$

LCM is $= 120$

So, $\frac{3}{8}=\frac{3\times15}{8\times15}=\frac{45}{120}, \frac{4}{5}=\frac{4\times24}{5\times24}=\frac{96}{120}$

$\frac{3}{10}=\frac{3\times12}{10\times12}=\frac{36}{120}, \frac{6}{15}=\frac{6\times8}{15\times8}=\frac{48}{120}$

So, $\frac{36}{120}<\frac{45}{120}<\frac{48}{120}<\frac{96}{120}$

$=\frac{3}{10}<\frac{3}{8}<\frac{6}{15}<\frac{4}{5}$

(f) $\frac{4}{5}, \frac{11}{25}, \frac{8}{15}, \frac{7}{20}$

LCM is = 300

So, $\frac{4}{5}=\frac{4\times60}{5\times60}=\frac{240}{300}, \frac{11}{25}=\frac{11\times12}{25\times12}=\frac{132}{300}$

$\frac{8}{15}=\frac{8\times20}{15\times20}=\frac{160}{300},$

$\frac{7}{20}=\frac{7\times15}{20\times15}=\frac{105}{300}$

So, $\frac{105}{300}<\frac{132}{300}<\frac{160}{300}<\frac{240}{300}$

$=\frac{7}{20}<\frac{11}{25}<\frac{8}{15}<\frac{4}{5}$

4. Arrange the following fractions in the descending order :

(a) $\frac{5}{6}, \frac{9}{10}, \frac{7}{9}, \frac{1}{3}$

LCM is = 90

$\frac{5}{6}=\frac{5\times15}{6\times15}=\frac{75}{90}, \quad \frac{9}{10}=\frac{9\times9}{10\times9}=\frac{81}{90},$

$\frac{7}{9}=\frac{7\times10}{9\times10}=\frac{70}{90}, \quad \frac{1}{3}=\frac{1\times30}{3\times30}=\frac{30}{90}$

So, $\frac{81}{90}>\frac{75}{90}>\frac{70}{90}>\frac{30}{90}$

$=\frac{9}{10}>\frac{5}{6}>\frac{7}{9}>\frac{1}{3}$

(b) $\frac{3}{5}, \frac{2}{15}, \frac{3}{4}, \frac{1}{3}$

LCM is = 60

$\frac{3}{5}=\frac{3\times12}{5\times12}=\frac{36}{60}, \quad \frac{2}{15}=\frac{2\times4}{15\times4}=\frac{8}{60},$

$\frac{3}{4}=\frac{3\times15}{4\times15}=\frac{45}{60}, \quad \frac{1}{3}=\frac{1\times20}{3\times20}=\frac{20}{60}$

So, $\frac{45}{60}>\frac{36}{60}>\frac{20}{60}>\frac{8}{60}$

$=\frac{3}{4}>\frac{3}{5}>\frac{1}{3}>\frac{2}{15}$

(c) $\frac{1}{4}, \frac{5}{10}, \frac{3}{15}, \frac{7}{18}$

LCM is = 180

So, $\frac{1}{4}=\frac{1\times45}{4\times45}=\frac{45}{180}, \frac{5}{10}=\frac{5\times18}{10\times18}=\frac{90}{180}$

$\frac{3}{15}=\frac{3\times12}{15\times12}=\frac{36}{180}, \frac{7}{18}=\frac{7\times10}{18\times10}=\frac{70}{180}$

So, $\frac{90}{180}<\frac{70}{180}<\frac{45}{180}<\frac{36}{180}$

$=\frac{5}{10}<\frac{7}{18}<\frac{1}{4}<\frac{3}{15}$

(d) $\frac{3}{4}, \frac{1}{6}, \frac{5}{8}, \frac{4}{9}$

LCM is = 72

So, $\frac{3}{4}=\frac{3\times18}{4\times18}=\frac{54}{72}, \frac{1}{6}=\frac{1\times12}{6\times12}=\frac{12}{72}$

$\frac{5}{8}=\frac{5\times9}{8\times9}=\frac{45}{72}, \frac{4}{9}=\frac{4\times8}{9\times8}=\frac{32}{72}$

So, $\frac{54}{72}>\frac{45}{72}>\frac{32}{72}>\frac{12}{72}$

$=\frac{3}{4}>\frac{5}{8}>\frac{4}{9}>\frac{1}{6}$

(e) $\frac{1}{7}, \frac{2}{21}, \frac{6}{14}, \frac{3}{35}$

LCM is = 210

So, $\frac{1}{7}=\frac{1\times30}{7\times30}=\frac{30}{210}, \frac{2}{21}=\frac{2\times10}{21\times10}=\frac{20}{210}$

$\frac{6}{14}=\frac{6\times15}{14\times15}=\frac{90}{210},$

$\frac{3}{35}=\frac{3\times6}{35\times6}=\frac{18}{210}$

So, $\frac{90}{210}>\frac{30}{210}>\frac{20}{210}>\frac{18}{210}$

$=\frac{6}{14}>\frac{1}{7}>\frac{2}{21}>\frac{3}{35}$

(f) $\frac{5}{9}, \frac{3}{27}, \frac{6}{18}, \frac{3}{6}$

LCM is = 54

So, $\frac{5}{9}=\frac{5\times6}{9\times6}=\frac{30}{54}, \frac{3}{27}=\frac{3\times2}{27\times2}=\frac{6}{54}$

$\frac{6}{18}=\frac{6\times3}{18\times3}=\frac{18}{54}, \frac{3}{6}=\frac{3\times9}{6\times9}=\frac{27}{54}$

So, $\frac{30}{54}>\frac{27}{54}>\frac{18}{54}>\frac{6}{54}$

$=\frac{5}{9}>\frac{3}{6}>\frac{6}{18}>\frac{3}{27}$

EXERCISE 9.5

1. Add the following :

(a) $\frac{4}{15}+\frac{6}{15}=\frac{10}{15}=\frac{2}{3}$

(b) $\frac{5}{11}+\frac{3}{11}=\frac{8}{11}$

(c) $\frac{6}{23}+\frac{7}{23}=\frac{13}{23}$

(d) $\frac{3}{8}+\frac{1}{8}=\frac{4}{8}=\frac{1}{2}$

(e) $\frac{4}{41}+\frac{12}{41}=\frac{16}{41}$

(f) $\frac{7}{32}+\frac{10}{32}=\frac{17}{32}$

2. Add the following :

(a) $\frac{7}{8}+\frac{5}{12}=\frac{21+10}{24}=\frac{31}{24}=1\frac{7}{24}$

(b) $\frac{8}{20}+\frac{3}{25}=\frac{40+12}{100}=\frac{13}{25}$

(c) $\frac{7}{12}+\frac{5}{16}=\frac{28+15}{48}=\frac{43}{48}$

(d) $\frac{2}{5}+\frac{4}{15}=\frac{6+4}{15}=\frac{10}{15}=\frac{2}{3}$

(e) $\frac{3}{14}+\frac{5}{21}=\frac{9+10}{42}=\frac{19}{14}$

(f) $\frac{4}{18}+\frac{5}{27}=\frac{12+10}{54}=\frac{22}{54}=\frac{11}{27}$

3. Add the following :

(a) $\frac{3}{4}+\frac{5}{8}+\frac{1}{12}$ (LCM of 4, 8, 12 = 24)

$=\frac{18+15+2}{24}=\frac{35}{24}=1\frac{11}{24}$

(b) $\frac{1}{3}+\frac{1}{5}+\frac{2}{15}$ (LCM of 3, 5, 15 = 15)

$=\frac{5+3+2}{15}=\frac{\cancel{10}^{2}}{\cancel{15}_{3}}=\frac{2}{3}$

(c) $\frac{3}{4}+\frac{1}{5}+\frac{3}{8}$ (LCM of 4, 5, 8 = 40)

$=\frac{30+8+15}{40}=\frac{53}{40}=1\frac{13}{40}$

(d) $\frac{5}{8}+\frac{3}{16}+\frac{7}{24}$

$=\frac{60+9+14}{48}=\frac{83}{48}=1\frac{35}{48}$

(e) $1+\frac{4}{15}+\frac{3}{20}$

$=\frac{60+16+9}{60}=\frac{\cancel{85}^{17}}{\cancel{60}_{15}}=\frac{17}{15}=1\frac{2}{15}$

(f) $\frac{4}{15}+\frac{2}{25}+\frac{1}{10}$

$=\frac{40+12+15}{150}=\frac{67}{150}$

4. Add the following :

(a) $2\frac{1}{5}+4\frac{2}{3}$

$=\frac{11}{5}+\frac{14}{3}=\frac{11\times3+14\times5}{15}$

$=\frac{33+70}{15}=\frac{103}{15}=6\frac{13}{15}$

(b) $1\frac{3}{5}+2\frac{7}{10}$

$=\frac{8}{5}+\frac{27}{10}=\frac{8\times2+27\times1}{10}$

$=\frac{16+27}{10}=\frac{43}{10}=4\frac{3}{10}$

(c) $3\frac{3}{4}+1\frac{1}{8}$

$=\frac{15}{4}+\frac{9}{8}=\frac{15\times2+9\times1}{8}$

$=\frac{30+9}{8}=\frac{39}{8}=4\frac{7}{8}$

(d) $1\frac{3}{4}+2\frac{1}{5}+\frac{1}{6}$

$=\frac{7}{4}+\frac{11}{5}+\frac{1}{6}$

$=\frac{7\times15+11\times12+1\times10}{60}$

$=\frac{105+132+10}{60}=\frac{247}{60}=4\frac{7}{60}$

(e) $4\frac{5}{6}+2\frac{1}{6}+1\frac{2}{2}$

$=\frac{29}{6}+\frac{13}{6}+\frac{3}{2}=\frac{29\times1+13\times1+3\times3}{6}$

$=\frac{29+13+9}{6}=\frac{51}{6}^{17}_{2}=8\frac{1}{2}$

(f) $5\frac{5}{6}+6\frac{11}{24}+1\frac{3}{16}$

$=\frac{35}{6}+\frac{155}{24}+\frac{19}{16}$

$=\frac{35\times8+155\times2+19\times3}{48}$

$=\frac{280+310+57}{48}=\frac{647}{48}=13\frac{23}{48}$

EXERCISE 9.6

1. Find the difference :

(a) $\frac{5}{7}-\frac{2}{7}=\frac{5-2}{7}=\frac{3}{7}$

(b) $\frac{5}{16}-\frac{3}{16}=\frac{5-3}{16}=\frac{2}{16}=\frac{1}{8}$

(c) $\frac{3}{17}-\frac{2}{17}=\frac{3-2}{17}=\frac{1}{17}$

(d) $\frac{11}{21}-\frac{5}{21}=\frac{11-5}{21}=\frac{6}{21}=\frac{2}{7}$

(e) $\frac{18}{37}-\frac{4}{37}=\frac{18-4}{37}=\frac{14}{37}$

(f) $\frac{7}{18}-\frac{5}{18}=\frac{7-5}{18}=\frac{2}{18}=\frac{1}{9}$

2. Find the difference :

(a) $\frac{5}{6}-\frac{2}{3}$

$=\frac{5\times1-2\times2}{6}$ (LCM of 6 and 3 is 6.)

$=\frac{5-4}{6}=\frac{1}{6}$

(b) $\frac{7}{9}-\frac{5}{12}$

$=\frac{7\times12-5\times9}{9\times12}$

$=\frac{84-45}{108}=\frac{39}{108}^{13}_{36}=\frac{13}{36}$

(c) $\frac{9}{10}-\frac{3}{5}$

$=\frac{9\times1-3\times2}{10}$ (LCM of 10 and 5 is 10.)

$=\frac{9-6}{10}=\frac{3}{10}$

(d) $\frac{17}{19}-\frac{13}{38}$

$=\frac{17\times2-13\times1}{38}$

(LCM of 17 and 34 is 34.)

$=\frac{34-13}{38}=\frac{21}{38}$

(e) $\frac{2}{1}-\frac{7}{9}$

$=\frac{2\times9-7\times1}{9}$ (LCM of 1 and 9 is 9.)

$=\frac{18-7}{9}=\frac{11}{9}=1\frac{2}{9}$

(f) $\frac{8}{15}-\frac{2}{5}$

$=\frac{8\times1-2\times3}{15}$ (LCM of 15 and 5 is 5.)

$=\frac{8-6}{15}=\frac{2}{15}$

3. Find the difference :

(a) $5-2\frac{2}{3}$

$\frac{5}{1}-\frac{8}{3}=\frac{5\times3-8\times1}{3}$

$=\frac{15-8}{3}=\frac{7}{3}=2\frac{1}{3}$

(b) $2-1\frac{7}{8}$

$\frac{2}{1}-\frac{15}{8}=\frac{2\times8-15}{8}$

$=\frac{16-15}{8}=\frac{1}{8}$

(c) $1\frac{2}{3}-\frac{2}{6}$

$\frac{5}{3}-\frac{2}{6}=\frac{5\times2-2}{6}$

$=\frac{10-2}{6}=\frac{8}{6}=\frac{4}{3}=1\frac{1}{3}$

(d) $5\frac{2}{3}-4\frac{4}{7}$

$=\frac{17}{3}-\frac{31}{7}$ (LCM of 3 and 7 is 21.)

$=\frac{17\times7-31\times3}{21}=\frac{119-93}{21}$

$=\frac{26}{21}=1\frac{5}{21}$

(e) $3\frac{1}{4}-1\frac{1}{8}$ (LCM of 4 and 8 is 8.)

$\frac{13}{4}-\frac{9}{8}=\frac{13\times2-9\times1}{8}=\frac{26-9}{8}$

$=\frac{17}{8}=2\frac{1}{8}$

(f) $12\frac{3}{5}-10\frac{1}{6}$ (LCM of 5 and 6 is 30.)

$\frac{63}{5}-\frac{61}{6}=\frac{63\times6-61\times5}{30}$

$=\frac{378-305}{30}=\frac{73}{30}=2\frac{13}{30}$

4. Simplify :

(a) $\frac{5}{6}-\frac{1}{4}+\frac{1}{2}$

$=\frac{5\times2-1\times3+1\times6}{12}$

$=\frac{10-3+6}{12}=\frac{13}{12}=1\frac{1}{12}$

(b) $\frac{7}{9}-\frac{2}{3}+\frac{5}{6}$

$=\frac{7\times2-2\times6+5\times3}{18}$

$=\frac{14-12+15}{18}=\frac{17}{18}$

(c) $\frac{5}{8}-\frac{1}{2}+\frac{3}{4}$

$=\frac{5\times1-1\times4+3\times2}{8}$

$=\frac{5-4+6}{8}=\frac{7}{8}$

(d) $3\frac{2}{3}+2\frac{1}{4}-2\frac{5}{6}$

$=\frac{11}{3}+\frac{9}{4}-\frac{17}{6}$

$=\frac{11\times4+9\times3-17\times2}{12}$

$=\frac{44+27-34}{12}=\frac{37}{12}=3\frac{1}{12}$

(e) $2\frac{3}{5}+4\frac{7}{15}-3\frac{3}{10}$

$=\frac{13}{5}+\frac{67}{15}-\frac{33}{10}$

$=\frac{13\times6+67\times2-33\times3}{30}$

$=\frac{78+134-99}{30}=\frac{113}{30}=3\frac{23}{30}$

(f) $4\frac{1}{3}-2\frac{3}{4}+5\frac{5}{6}$

$=\frac{13}{3}-\frac{11}{4}+\frac{35}{6}$

$=\frac{13\times4-11\times3+35\times2}{12}$

$=\frac{52-33+70}{12}=\frac{89}{12}=7\frac{5}{12}$

EXERCISE 9.7

1. Quantity of water in the bucket $=4\frac{3}{5}l$

Quantity of added water $=2\frac{1}{10}l$

So, total quantity of water in the bucket

$=\left(4\frac{3}{5}+2\frac{1}{10}\right)l=\left(\frac{25}{5}+\frac{21}{10}\right)l$

$=\left(\frac{25\times10+21\times5}{10}\right)l$

$=\left(\frac{250+105}{10}\right)l=\frac{355}{10}l$

$=3\frac{55}{10}l=3\frac{11}{2}l$

2. Quantity of oil in a drum $=10l$

Quantity of leaked oil $=1\frac{1}{5}l$

So, total quantity of oil is left

$=\left(10-1\frac{1}{5}\right)l=\left(\frac{10}{1}-\frac{6}{5}\right)l$

$=\left(\frac{10\times5-6}{5}\right)l=\left(\frac{50-6}{5}\right)l$

$$= \frac{44}{5} l = 8\frac{4}{5} l$$

3. Quantity of milk $= 8\frac{3}{4} l$

Quantity of used milk $= \left(5\frac{1}{5}\right) l$

So, total quantity of milk left

$$= \left(8\frac{3}{4} - 5\frac{1}{5}\right) l = \left(\frac{35}{4} - \frac{26}{5}\right) l$$

$$= \left(\frac{5 \times 35 - 26 \times 4}{20}\right) l$$

$$= \left(\frac{175 - 104}{20}\right) l = \frac{71}{20} l = \mathbf{3\frac{11}{20} l}$$

4. Total length of wire to Abhay $= 6\frac{1}{8}$ m

Total length of wire to Sarthak $= 5\frac{1}{5}$ m

So, total wire has $= \left(6\frac{1}{8} - 5\frac{1}{5}\right)$ m

$$= \left(\frac{49}{8} - \frac{26}{5}\right) \text{m} = \left(\frac{49 \times 5 - 26 \times 8}{40}\right) \text{m}$$

$$= \left(\frac{245 - 208}{40}\right) l = \frac{37}{40} l$$

5. Weight of a sugar bag $= 30\frac{1}{2}$ kg

Weight of empty bag $= 1\frac{1}{5}$ kg

So, total weight of sugar in bag

$$= \left(30\frac{1}{2} - 1\frac{1}{5}\right) \text{kg} = \left(\frac{61}{2} - \frac{6}{5}\right) \text{kg}$$

$$= \left(\frac{61 \times 5 - 6 \times 2}{10}\right) \text{kg}$$

$$= \left(\frac{305 - 12}{10}\right) \text{kg} = \frac{293}{10} \text{kg} = \mathbf{29\frac{3}{10} kg}$$

6. Weight of empty cylinder $= 16\frac{1}{4}$ kg

Weight of gas is $= 14$ kg

So, weight of filled gas cylinder

$$= \left(16\frac{1}{4} + 14\right) \text{kg}$$

$$= \left(\frac{65}{4} + 14\right) \text{kg}$$

$$= \left(\frac{65 + 56}{4}\right) \text{kg}$$

$$= \frac{121}{4} \text{kg} = \mathbf{30\frac{1}{4} kg}$$

7. Total length of rope $= 50$ m

He cut in two pieces $= 10\frac{1}{4}$ m $+ 12\frac{1}{5}$ m

$$= \left(\frac{41}{4} + \frac{61}{5}\right) \text{m}$$

$$= \left(\frac{41 \times 5 + 61 \times 4}{20}\right) \text{m}$$

$$= \left(\frac{205 + 244}{20}\right) \text{m} = \frac{449}{20} \text{m}$$

So, total length of rope $= 50$ m

Then, length of remaining rope

$$= 50 - \frac{449}{20} \text{m} = \frac{50 \times 20 - 449}{20}$$

$$= \frac{1000 - 449}{20}$$

$$= \frac{551}{20} = \mathbf{25\frac{51}{20} m}$$

8. Weight of water in bucket $= 18\frac{1}{2}$ kg

Weight of more water $= 15\frac{1}{4}$ kg

So, total wight of empty bucket

$$= \left(18\frac{1}{2} - 15\frac{1}{4}\right) \text{kg}$$

$$= \left(\frac{37}{2} - \frac{61}{4}\right) \text{kg}$$

$$= \left(\frac{37 \times 2 - 61 \times 1}{4}\right) \text{kg}$$

$$= \left(\frac{74 - 61}{4}\right) \text{kg} = \frac{13}{4} \text{kg} = \mathbf{3\frac{1}{4} kg}$$

10. Decimals

EXERCISE 10.1

1. Write the following in figures :

(a) 2.723 (b) 7.005 (c) 29.708
(d) 65.504 (e) 128.126 (f) 309.048

2. Write the number name of each of the following :

(a) Two point seven three.
(b) Three point zero nine two.
(c) Fourteen point zero seven two.
(d) Thirty seven point one eight six.
(e) One hundred forty two point eight seven.
(f) One hundred thirty nine point six zero five.
(g) Two hundred eighty nine point three two five.
(h) Three hundred seventy six point one zero nine.

3. Write each of the following as decimal :

(a) 0.4 (b) 2.5 (c) 0.39
(d) 0.12 (e) 0.172 (f) 0.167
(g) 0.005 (h) 0.0015

4. Write each of the following as fraction :

(a) $\frac{3}{10}$ (b) $\frac{17}{100}$ (c) $\frac{672}{1000}$
(d) $\frac{35}{1000}$ (e) $\frac{12}{100}$ (f) $\frac{67}{100}$
(g) $\frac{605}{1000}$ (h) $\frac{125}{1000}$

5. Write each of the following as mixed fraction :

(a) $3.25 = 3 + 0.25$
$= 3 + \frac{25}{100} = 3\frac{25^{1}}{100_{4}} = \mathbf{3\frac{1}{4}}$

(b) $1.78 = 1 + 0.78$
$= 1 + 0.78$
$= 1 + \frac{78}{100} = 1\frac{78^{39}}{100_{50}} = \mathbf{1\frac{39}{50}}$

(c) $25.69 = 25 + 0.69$
$= 25 + \frac{69}{100} = \mathbf{25\frac{69}{100}}$

(d) $15.87 = 15 + 0.87$
$= 15 + \frac{87}{100} = \mathbf{15\frac{87}{100}}$

(e) $236.05 = 236 + 0.05$
$= 236 + \frac{5}{100} = \mathbf{236\frac{1}{20}}$

(f) $138.51 = 138 + 0.51$
$= 138 + \frac{51}{100} = \mathbf{138\frac{51}{100}}$

(g) $612.706 = 612 + 0.706$
$= 612 + \frac{706}{1000} = \mathbf{612\frac{353}{500}}$

(h) $37.718 = 37 + 0.718$
$= 37 + \frac{718}{1000} = \mathbf{37\frac{359}{500}}$

EXERCISE 10.2

1. Expand the following decimal numbers :

(a) $70 + 8 + \frac{3}{10} + \frac{7}{100} + \frac{6}{1000}$

(b) $90 + 1 + \frac{1}{10} + \frac{3}{100} + \frac{2}{1000}$

(c) $20 + 5 + \frac{6}{1000}$

(d) $100 + 70 + 1 + \frac{2}{10} + \frac{1}{100} + \frac{7}{1000}$

(e) $200 + 30 + 9 + \frac{6}{10} + \frac{5}{100} + \frac{8}{1000}$

(f) $800 + 90 + 5 + \frac{1}{10} + \frac{3}{100} + \frac{9}{1000}$

2. Write the following in decimal form :

(a) $20 + 5 + 0.7 + 0.06 = 25.76$
(b) $90 + 70 + 3 + 0.5 + 0.06 = 973.56$
(c) $300 + 80 + 5 + 0.4 + 0.09 = 385.409$
(d) $200 + 8 + 0.09 + 0.005 = 28.095$
(e) $600 + 80 + 7 + 0.2 + 0.06 + 0.003 = 687.263$
(f) $900 + 90 + 9 + 0.9 + 0.09 + 0.009 = 999.999$
(g) $700 + 80 + 0.05 + 0.007 = 78.057$

EXERCISE 10.3

1. Separate the like and unlike decimal from the following decimals :

like – 3.7, 8.9, 9.6

like – 3.18, 216.83, 196.41, 181.37, 19.06

like – 6.724, 3.894, 37.816, 678.006

like – 19.6704, 81.3704, 15.6234

2. Convert each of the following into like fractions :

(a) 7.283, 6.7, 9.728, 3.197, 2.8, 6.09

Maximum digits after decimal point in the given decimal number are four. So, we have to extend zero after each decimal point where necessary.

Now, 7.283 = 7.283; 6.7 = 6.700;

9.728 = 9.728; 3.197 = 3.197;

2.8 = 2.800; 6.09 = 6.090.

(b) 19.002 = 19.0020; 8.672 = 8.6720;

5.2 = 5.2000; 3.9128 = 3.9128;

4.12 = 4.1200; 3.7 = 3.7000.

(c) 28.6 = 28.6000; 19.81 = 19.8100;

3.7 = 3.7000; 19.28 = 19.2800;

162.245 = 162.2450;

3.9178 = 3.9178.

(d) 19.602 = 19.6020; 8.9172 = 8.9172;

3.62 = 3.6200; 9.12 = 9.1200;

4.1 = 4.1000; 2.8 = 2.8000.

EXERCISE 10.4

1. Fill in the boxes with '>', '<' or '=' :

(a) > (b) < (c) > (d) <

(e) < (f) > (g) > (h) <

2. Arrange the following decimals in ascending order :

(a) 3.72, 6.23, 9.86, 14.628, 15.283, 19.285

(b) 3.278, 4.19, 4.8, 9.734, 9.813, 19.625

(c) 3.728, 4.128, 5.629, 13.42, 18.96, 19.28

(d) 3.784, 5.86, 5.92, 8.728, 8.96, 14.37

3. Arrange the following decimals in descending order :

(a) 9.814, 9.6285, 7.8, 5.528, 5.412, 3.6

(b) 25.912, 19.62, 19.58, 15.87, 14.37, 8.24

(c) 32.85, 30.67, 30.159, 28.9, 28.47, 13.28

(d) 32.384, 29.2, 19.628, 13.428, 6.285, 5.285

EXERCISE 10.5

1. Arrange in the column and add :

(a) 16.7, 8.67

On converting the given decimals into like decimals and arranging in the column.

$$\begin{array}{r} {\scriptstyle ①①\ \ } \\ 16.70 \\ +\ 8.67 \\ \hline 25.37 \end{array}$$

Hence, 16.7 + 8.67 = 25.37

(b) 5.29, 26.726

On converting the given decimals into like decimals and arranging in the column.

$$\begin{array}{r} {\scriptstyle ①①①\ \ } \\ 5.290 \\ +\ 26.726 \\ \hline 32.016 \end{array}$$

Hence, 5.29 + 26.726 = 32.16

(c) 15.128, 6.029, 5.342

$$\begin{array}{r} {\scriptstyle ①\ \ ①\ \ } \\ 15.128 \\ 6.029 \\ +\ 5.342 \\ \hline 26.499 \end{array}$$

Hence, 15.128 + 6.029 + 5.342 = 26.499

(d) 7.28, 6.92, 15.26

$$\begin{array}{r} {\scriptstyle ①①①\ \ } \\ 7.28 \\ 6.72 \\ +\ 15.26 \\ \hline 29.26 \end{array}$$

Hence, 7.28 + 6.92 + 15.26 = 29.26

(e) 9.124, 6.712, 16.34

```
 ②①
 16.340
  9.124
+ 6.712
 32.176
```

Hence, 9.124 + 6.712 + 16.34 = 32.176

(f) 6.238, 5.128, 19.625

```
 ②  ②
 19.625
  6.238
+ 5.128
 30.991
```

Hence, 6.238 + 5.128 + 19.625 = 30.991

(g) 41.38, 9.632, 8.591

```
 ①① ②
 41.380
  9.632
+ 8.591
 59.603
```

Hence, 41.38 + 9.632 + 8.591 = 59.603

(h) 112.812, 37.006, 7.384

```
 ①① ①①
112.812
 37.006
+ 7.384
157.202
```

Hence, 112.812 + 37.006 + 7.384
= 157.202

(i) 73.16, 3.172, 9.1604

```
  ①  ①
 73.1600
  9.1604
+ 3.1720
 85.4924
```

Hence, 73.16 + 3.172 + 9.1604
= 85.4924

(j) 37.008, 49.612, 84.307

```
 ②  ①
 84.307
 49.612
+37.008
170.927
```

Hence, 37.008 + 49.612 + 84.307
= 170.927

2. Arrange in the column and subtract :

(a) 32.42 from 43.68

On converting the given decimals into like decimals and arranging in the column.

```
 43.68
- 32.42
 11.26
```

Hence, 43.68 – 32.42 = 11.26

(b) 4.06 from 12.812

On converting the given decimals into like decimals and arranging in the column.

```
    ⑦⑪
 12.8̸1̸2
- 4.060
  8.752
```

Hence, 12.812 – 4.06 = 8.752

(c) 91.372 from 96.212

```
    ⑤⑪⑪
 9̸6̸.2̸1̸2
-91.372
  4.840
```

Hence, 96.212 – 91.372 = 4.840

(d) 13.72 from 20

```
   ⑨⑨⑩
 2̸0̸.0̸0̸
-13.72
  6.28
```

Hence, 20 – 13.72 = 6.28

(e) 6.124 from 10.34

```
 10.324
 -6.124
  4.200
```

Hence, 6.124 – 10.324 = 4.200

(f) 8.124 from 23.610

```
  ①13 ⑤①⑩
 2̸3̸.6̸1̸0̸
 -8.124
 15.486
```

Hence, 8.124 – 23.610
= 15.486

(g) 16.984 from 20.036

$$\begin{array}{r} {\scriptstyle ①}{\scriptstyle ⑨}\ {\scriptstyle ⑨}{\scriptstyle ⑬} \\ 20.036 \\ -16.984 \\ \hline 03.052 \end{array}$$

Hence, 16.984 – 20.036 = 3.052

(h) 7.084 from 10.01

$$\begin{array}{r} {\scriptstyle ⑨}\ {\scriptstyle ⑨}{\scriptstyle ①}{\scriptstyle ①}{\scriptstyle ⑩} \\ 10.010 \\ -7.084 \\ \hline 2.926 \end{array}$$

Hence, 7.084 – 10.01 = 2.926

(i) 19.374 from 26.37

$$\begin{array}{r} {\scriptstyle ①}{\scriptstyle ⑮}\ {\scriptstyle ⑫}{\scriptstyle ⑪}{\scriptstyle ⑩} \\ 26.370 \\ -19.374 \\ \hline 06.996 \end{array}$$

Hence, 19.374 – 26.37 = 6.996

(j) 28.672 from 40

$$\begin{array}{r} {\scriptstyle ③}{\scriptstyle ⑨}\ {\scriptstyle ⑨}{\scriptstyle ⑨}{\scriptstyle ⑩} \\ 40.000 \\ -28.672 \\ \hline 11.328 \end{array}$$

Hence, 28.672 – 40 = 11.328

EXERCISE 10.6

1. Total money = ₹ 500.50

He gets another person = ₹ 375.85

So, total money he has now

= ₹ (500.50 + 375.85)

= ₹ 876.35

Hence, ₹ 876.35 he has now.

2. Cost of a shirt = ₹ 679.85

Cost of a jeans = ₹ 898.65

So, total money he spend

= ₹ (679.85 + 898.65)

= ₹ 1578.50

Hence, he spend in all ₹ 1578.50.

3. Ranjan has money = ₹ 750.50

Ranjan purchase fruits = ₹ 438.95

So, total money he have now

= ₹ (750.50 – 438.95)

= ₹ 311.55

Hence, he have now ₹ 311.55.

4. Mahima has money = ₹ 300

Cost of a suit = ₹ 450.55

So, total money she need to buy suit

= ₹ (450.55 – 300)

= ₹ 150.55

Hence, she need ₹ 150.55 to buy a suit.

5. Mamta has money = ₹ 800

Cost of a calculator = ₹ 255.95

Cost of a purse = ₹ 386.95

So, total cost of both the items

= ₹ (255.95 + 386.95)

= ₹ 642.90

Mamta has money = ₹ 800

So, total money she has now

= ₹ (800 – 642.90)

= ₹ 157.10

Hence, she has now ₹ 157.10.

6. Shivani has money = ₹ 3000

Cost of a bicycle = ₹ 1550.95

Cost of a jeans = ₹ 999.95

So, total cost of both the items

= ₹ (1550.95 + 999.95)

= ₹ 2550.90

Shivani has money = ₹ 3000

So, total money left with her

= ₹ (3000 – 2550.90)

= ₹ 449.10

Hence, ₹ 449.10 left with her.

7. Saksham had money = ₹ 795.85

Cost of a book = ₹ 293.96

Cost of a copy = ₹ 34.75

Cost of a pen = ₹ 134.55

So, total cost of all these items

= ₹ (293.96 + 34.75 + 134.55)

= ₹ 463.26

Saksham had money = ₹ 795.85

So, total money he left

= ₹ (795.85 – 463.26)

= ₹ 332.59

Hence, ₹ 332.59 left with him.

8. Length of rope = 100.64 m
Length of 1 piece = 28.95 m
Length of 2 pieces = 37.68 m
So, total length of both pieces
= 28.95 + 37.68
= 66.63
Length of rope = 100.64 m

So, the length of remaining rope
= 100.64 – 66.63 = 34.01
Hence, the length of remaining rope is 34.01 m.

Multiple Choice Questions (MCQs)

1. (b) **2.** (b) **3.** (c) **4.** (b) **5.** (c)
6. (b) **7.** (c) **8.** (a) **9.** (d) **10.** (b)

Comulative Revision - III

1. Write four equivalent fraction to ;

(a) $\frac{6}{11} = \frac{6\times2}{11\times2}, \frac{6}{11}\times\frac{3}{3}, \frac{6}{11}\times\frac{4}{4}, \frac{6}{11}\times\frac{5}{5}$
$= \frac{12}{22}, \frac{18}{33}, \frac{24}{44}, \frac{30}{55}$

(b) $\frac{4}{19} = \frac{4}{19}\times\frac{2}{2}, \frac{4}{19}\times\frac{3}{3}, \frac{4}{19}\times\frac{4}{4}, \frac{4}{19}\times\frac{5}{5}$
$= \frac{8}{38}, \frac{12}{57}, \frac{16}{76}, \frac{20}{95}$

2. Reduce the following fraction to the lowest form :

(a) $\frac{117}{169}$

13	117
9	9
	1

13	169
13	13
	1

$117 = 13\times9$
$169 = 13\times13$
HCF = 13 Now, $\frac{117\div13}{169\div13} = \frac{9}{13}$

(b) $\frac{35}{275}$

5	35
7	7
	1

5	275
5	55
11	11
	1

$35 = 5\times7$
$275 = 5\times5\times11$
HCF = 5 Now, $\frac{35\div5}{275\div5} = \frac{7}{55}$

3. $\frac{5}{9}, \frac{3}{27}, \frac{6}{18}, \frac{3}{6}$
LCM is = 54
So, $\frac{5}{9} = \frac{5\times6}{9\times6} = \frac{30}{54}, \frac{3}{27} = \frac{3\times2}{27\times2} = \frac{6}{54}$
$\frac{6}{18} = \frac{6\times3}{18\times3} = \frac{18}{54}, \frac{3}{6} = \frac{3\times9}{6\times9} = \frac{27}{54}$
So, $\frac{6}{54} < \frac{18}{54} < \frac{27}{54} < \frac{30}{54} = \frac{3}{24} < \frac{6}{18} < \frac{3}{6} < \frac{5}{9}$

4. (a) $\frac{173}{100} = 1.73$ (b) $\frac{6}{1000} = 0.006$
(c) $\frac{39}{10000} = 0.0039$ (d) $\frac{837}{10} = 83.7$

5. (a)
$$\begin{array}{r} 15.128 \\ 6.029 \\ +28.694 \\ \hline 49.851 \end{array}$$

(b)
$$\begin{array}{r} {\scriptstyle 3\,9\ \ 9\,9\,10} \\ 40.000 \\ -36.289 \\ \hline 03.711 \end{array}$$

6. Write two unit fractions :
$\frac{1}{7}$ $\frac{1}{8}$

11. Measurement

EXERCISE 11.1

1. Convert the following :
(a) 7 km 85 m into m
$\therefore$ 1 km = 1000 m
= (7 × 1000) m + 85 m
= (7000 + 85) m = 7085 m
(b) 18 km 385 m into m
= (18 × 1000 + 385) m

$= (18000 + 385)\ m = 18385\ m$

(c) 32 m 85 cm into cm

$\therefore 1\ m = 100\ cm$

$= (32 \times 100 + 85)\ cm$

$= (3200 + 85)\ cm = 3285\ cm$

(d) 16 hm 45 m into m

$\therefore 1\ hm = 100\ m$

$= (16 \times 100 + 45)\ m$

$= (1600 + 45)\ m = 1645\ m$

(e) 2 m 62 mm into mm

$\therefore 1\ m = 1000\ mm$

$= (2 \times 1000 + 62)\ mm$

$= (2000 + 62)\ mm = 2062\ mm$

(f) 8 dm 56 mm into mm

$\therefore 1\ dm = 100\ mm$

$= (8 \times 100 + 56)\ mm$

$= (800 + 56)\ mm = 856\ mm$

2. Convert the following using decimals :

(a) 7856 m into km

$1\ m = \frac{1}{1000}\ km = 0.001\ km$

$7856\ m = (7856 \times 0.001)\ km$

$= 7.856\ km$

(b) 415 m into km

$1\ m = 0.001\ km$

$415\ m = (415 \times 0.001)\ km$

$= 0.415\ km$

(c) 9126 m into hm

$1\ m = \frac{1}{100}\ hm = 0.01\ hm$

$9126\ m = (9126 \times 0.01)\ hm$

$= 91.26\ hm$

(d) 372 dm into hm

$1\ dm = \frac{1}{1000}\ hm = 0.001\ hm$

$372\ dm = (372 \times 0.001)\ hm$

$= 0.372\ hm$

(e) 529 cm into m

$1\ cm = \frac{1}{100}\ m = 0.01\ m$

$529\ cm = (529 \times 0.01)m = 5.29m$

(f) 8196 mm into m

$1\ mm = \frac{1}{100}m = 0.001\ m$

$8196\ mm = (8196 \times 0.001)m$

$= 8.196m$

3. Convert the following :

(a) 5 kg 486 g into g

$= (5 \times 1000 + 486)\ g$

$= (5000 + 486)\ g = 5486\ g$

(b) 4 hg 45 g into g $\quad \therefore 1\ hg = 100\ g$

$= (4 \times 100 + 45)\ g$

$= (400 + 45)\ g = 445\ g$

(c) 23 dag 12 g into g

$1\ dag = 10\ g$

$= (23 \times 10 + 12)\ g$

$= (230 + 12)\ g = 242\ g$

(d) 15 g 13 mg into mg

$1\ g = 1000\ mg$

$= (15 \times 1000 + 13)\ mg$

$= (15000 + 13)\ mg = 15013\ mg$

(e) 8 g 12 cg into cg

$1\ g = 100\ cg$

$= (8 \times 100 + 12)\ cg$

$= (800 + 12)\ cg = 812\ cg$

(f) 25 g 15 cg into cg

$= (25 \times 100 + 15)\ cg$

$= (2500 + 15)\ cg$

$= 2515\ cg$

4. Convert the following, using decimals :

(a) 7856 g into kg

$1\ g = \frac{1}{1000}\ kg = 0.001\ kg$

$\therefore 7856\ g = (7856 \times 0.001)\ kg$

$= 7.856\ kg$

(b) 5160 g into kg

$1\ g = 0.001\ kg$

$\therefore 5160\ g = (5160 \times 0.001)\ kg$

$= 5.160\ kg$

(c) 9163 g into hg

$1\ g = \frac{1}{100}\ hg = 0.01\ hg$

$\therefore 9163\ g = (9163 \times 0.01)\ hg$

$= 91.63\ hg$

(d) 8156 mg into dag

$1\ mg = \frac{1}{100}\ dag = 0.01\ dag$

$\therefore 8156\ mg = (8156 \times 0.01)\ dag$

$= 81.56\ dag$

(e) 678 mg into g

$1\ mg = \frac{1}{1000}\ g = 0.001\ g$

$\therefore 678\ mg = (678 \times 0.001)\ g$

$= 0.678\ g$

(f) 9065 mg into dg

$1\ mg = \frac{1}{100}\ dg = 0.01\ dg$

$\therefore 9065\ mg = (9065 \times 0.01)\ dg$

$= 90.65\ dg$

5. Convert the following :

(a) 10 kl into l $1\ kl = 1000\ l$

$= (10 \times 1000)\ l$

$= 10000\ l$

(b) 12 kl 150 l into l

$= (12 \times 1000 + 150)\ l$

$= 12000 + 150\ l = 12150\ l$

(c) 17 hl 55 l into l $1\ hl = 100\ l$

$= (17 \times 100 + 55)\ l$

$= (1700 + 55)\ l = 1755\ l$

(d) 18 dal 8 l into l $1\ dal = 10\ l$

$= (18 \times 10 + 8)\ l$

$= (180 + 8)\ l = 188\ l$

(e) 3 l 15 ml into ml $1\ l = 1000\ ml$

$= (3 \times 1000 + 15)\ ml$

$= (3000 + 15)\ ml = 3015\ ml$

(f) 6 l 18 cl into cl $1\ l = 1000\ cl$

$= (6 \times 1000 + 18)\ cl$

$= (6000 + 18)\ cl = 6018\ cl$

6. Convert the following using decimals :

(a) 785 l into kl

$1\ l = \frac{1}{1000}\ kl = 0.001\ kl$

$\therefore 785\ l = (785 \times 0.001)\ kl$

$= 0.785\ kl$

(b) 176 l into hl

$1\ l = \frac{1}{1000}\ hl = 0.001\ hl$

$\therefore 176\ l = (176 \times 0.001)\ hl$

$= 0.176\ hl$

(c) 5162 ml into dal

$1\ ml = \frac{1}{1000}\ dal = 0.001\ dal$

$\therefore 5162\ ml = (5162 \times 0.001)\ dal$

$= 5.162\ dal$

(d) 385 ml into l

$1\ ml = \frac{1}{1000}\ l = 0.001\ l$

$\therefore 385\ ml = (385 \times 0.001)\ l = 0.385\ l$

(e) 685 cl into l

$1\ cl = \frac{1}{1000} = 0.001\ l$

$= (685 \times 0.001)\ l = 0.685\ l$

(f) 409 ml into l

$1\ ml = \frac{1}{1000}\ l = 0.001\ l$

$= (409 \times 0.001)\ l = 0.409\ l$

EXERCISE 11.2

1. Add the following :

(a)

km	m
62	340
+36	416
98	756

So, 62 km 340 m + 36 km 416 m

= 98 km 756 m

(b)

km	m
	1
72	459
+ 38	316
110	775

So, 72 km 459 m + 38 km 316 m

= 110 km 775 m

(c)

m	cm
1 1	
54	63
+ 96	72
151	35

So, 54 m 63 cm + 96 m 72cm

= 151 m 35 cm

(d)

m	cm
1 1	1
38	49
+ 67	78
106	27

So, 38 m 49 cm + 67 m 78 cm
= 106 m 27 cm

(e)

hm	m
1 1	1
18	55
+ 63	78
82	33

So, 18 hm 55 m + 63 hm 78 m
= 82 hm 33 m

(f)

m	mm
1 1	1
15	617
+ 28	528
41	145

So, 15 m 617 mm + 28 m 528 mm
= 44 m 145 mm

2. Add the following :

(a)

kg	g
1 1	1
68	517
+ 76	728
145	245

So, 68 kg 517 g + 76 kg 728 g
= 145 kg 245 g

(b)

kg	g
1	
96	63
+ 86	515
182	578

So, 96 kg 63 g + 86 kg 515g
= 182 kg 578 g

(c)

g	mg
1 1	1
617	541
+ 414	819
1032	360

So, 617 g 541 mg + 414 g 819 mg
= 1032 g + 360 mg

(d)

g	mg
1	1 1
34	178
+ 96	366
130	544

So, 34 g 178 mg + 96 g 360 mg
= 130 g 544 mg

(e)

hg	dg
1 1	1
78	56
+ 53	68
132	24

So, 78 hg 56 dg + 53 hg 68 dg
= 132 hg 24 dg

(f)

dg	mg
1	1
67	18
+ 75	29
142	47

So, 67 dg 18 mg + 75 dg 29 mg
= 142 dg 47 mg

3. Add the following :

(a)

kl	l
73	135
+ 87	655
160	790

So, 73 kl 135 l + 87 kl 655 l
= 160 kl 790 l

(b)

kl	l
1	
128	63
+ 235	128
363	758

So, 128 kl 63 l + 235 kl 128 l
= 363 kl 758 l

(c)

l	ml
1 1	1 1
54	916
+ 68	588
123	504

So, 54 l 916 ml + 68 l 588ml
= 123 l 504 ml

(d)

l	ml
1	1
92	313
+ 48	755
141	068

So, 92 l 313 ml + 48 l 755 ml
= 141 l 068 ml

(e)

l	ml
1	1
15	18
+ 8	25
23	43

So, 15 dl 18 ml + 8 dl 25 ml
= 23 dl 43 ml

(f)

l	ml
1	
18	23
+33	6
51	29

So, 18 dl 23 ml + 33 dl 6 ml
= 51 dl 29 ml

EXERCISE 11.3

1. Subtract the following :

(a)

km	m	
5	12	13 1 18
6	3	3 2 8
− 38		4 1 9
24		9 0 9

So, 63 km 328 m − 38 km 419 m
= 24 km 909 m

(b)

km	m	
1	9	9 9 9 10
2	0	0 0 0 0
− 142		3 2 6
57		6 7 4

So, 200 km − 142 km 326 m
= 57 km 674 m

(c)

hm	m	
	3	10
52	4	0
− 40		3 8
12		0 2

So, 52 hm 40 m − 40 hm 38 m
= 12 hm 02 m

(d)

m	cm	
	7	13
98	3	2
− 80		4 2
17		9 0

So, 98 m 32 cm − 80 m 42 cm
= 17 m 90 cm

(e)

m	cm	
	7	12
178	2	6
− 105		9 6
072		3 0

So, 178 m 26 cm − 105 m 96 cm
= 72 m 30 cm

(f)

cm	m	
2	11	10
3	2	0
− 25		8
06		2

So, 32 cm − 25 cm 8 m = 6 cm 2 m

2. Subtract the following :

(a)

kg	g	
4	9	11
5	0	1 4 8
− 45		3 4 0
4		8 0 8

So, 50 kg 148 g − 45 kg 340 g
= 4 kg 808 g

(b)

kg	g	
1	10	11 10
2	1	2 0 8 5
− 096		4 5 0
115		6 3 5

So, 212 kg 85 g − 96 kg 450 g
= 115 kg 635 g

(c)

hg	g
	4 16
46	~~5~~ ~~6~~
− 32	48
14	08

So, 46 hg 56 g − 32 hg 48 g
= 14 hg 8 g

(d)

g	mg
4 16	14
~~5~~ ~~6~~	1 ~~4~~ 8
− 48	053
8	095

So, 56 g 148 mg − 48 g 53 mg
= 8 g 95 mg

(e)

g	mg
9 9	9 9 10
~~1~~00	00~~0~~
− 56	561
44	439

So, 100 g − 55 g 561 mg
= 44 g 439 mg

2. (f)

g	mg
3 17	10 15
248	15~~2~~
− 19	362
228	790

So, 248 g 152 mg − 19 g 362 mg
= 228 g 790 mg

3. Subtract the following :

(a)

kl	l
7	11
3~~8~~	~~1~~ 49
− 26	345
11	804

So, 38 kl 149 l − 26 kl 345 l
= 11 kl 804 l

(b)

kl	l
9 9	9 10
~~1~~00	00~~0~~
− 48	140
51	860

So, 100 kl − 48 kl 140 l
= 51 kl 860 l

(c)

kl	l
9 9	11
~~2~~00	~~1~~63
− 142	452
57	711

So, 200 kl 163 l − 142 kl 452 l
= 57 kl 711 l

(d)

hl	l
7	12 12
6~~8~~	~~3~~ ~~2~~
− 52	43
15	89

So, 68 hl 32 l − 52 hl 43 l
= 15 hl 89 l

(e)

l	ml
5 10	5 12
~~3~~0	2~~6~~ ~~2~~
− 36	158
24	104

So, 60 l 262 ml − 36 l 158 ml
= 24 l 104 ml

(f)

l	ml
2 9 9	9 9 10
~~3~~00	0~~0~~0
− 192	314
107	686

So, 300 l − 192 l 314 ml
= 107 l 686 ml

EXERCISE 11.4

1. Multiply the following :

(a)

km	m
1 1	1
34	543
	× 3
103	629

So, 34 km 543 m × 3
= 103 km 629 m

(b)

km	m
1 2	3
926	219
	× 4
3704	876

So, 926 km 219 m × 4
= 3704 km 876 m

(c)

hm	m
1 1 1	1
132	32
	× 6
793	92

So, 132 hm 32 m × 6
= 793 dm 92 m

(d)

m	cm
1 3	1
712	42
	× 8
5699	36

So, 712 m 42 cm × 8
= 5699 m 36 cm

(e)

m	cm
1 2 3	4
324	68
	× 5
1603	40

So, 324 m 68 cm × 5
= 1603 m 40 cm

(f)

dm	mm
1	5
8	16
	× 9
73	44

So, 8 dm 16 m × 9
= 73 dm 44 mm

2. Multiply the following :

(a)

kg	g
1	3 2
8	364
	× 5
41	820

(b)

kg	g
	2 3
92	169
	× 4
368	676

(c)

kg	g
2 2	4
63	48
	× 6
380	88

(d)

kg	g
1 5 5	8
316	59
	× 9
2849	31

(e)

g	mg
1 1	1
43	516
	× 3
130	548

(f)

g	mg
1 4 2	2
216	314
	× 7
1514	198

3. Multiply the following :

(a)

kl	l
1	2 3
32	145
	× 6
192	870

(b)

kl	l
3 1	1
216	312
	× 5
1081	560

(c)

kl	l
1 1 2	1 7
718	319
	× 8
5746	552

(d)

hl	l
2	1
91	32
	× 7
639	24

(e)

hl	l
1 3	1
92	612
	× 5
463	060

(f)

hl	l
3 2 1	
196	32
	× 4
785	28

EXERCISE 11.5

1. Divide the following :

(a) 28 km 456 m by 4
1 km = 1000 m
= (28 × 100 + 456) m
= (28000 + 456) m
= 28456 m
So, 28 km 456 m ÷ 4
= 7114 m
= (7000 + 114) m
= 7 km 114 m

```
4 | 28456 | 7114
   -28
    04
    -4
     05
     -4
      16
     -16
       0
```

(b) 64 km 255 m by 5 (1 km = 1000m)
= (64 × 100
+ 255) m
= (64000
+ 255) m
= 64255
So, 64 km 255 m ÷ 5
= 12851 m
= (12000 + 851) m
= 12km 851 m

```
5 | 64255 | 12851
   -5
    14
   -10
     42
    -40
      25
     -25
       5
      -5
       0
```

(c) 32 hm 72 m by 2

1 hm = 100 m

= (32 × 100 + 72) m

= (3200 + 72) m

= 3272 m

So, 32 hm 72 m ÷ 2

= 1636 m

= (1600 + 36) m

= 16 hm 36 m

```
2 | 3272 | 1636
  -2
  ---
   12
  -12
  ---
    07
    -6
    --
     12
    -12
    ---
      0
```

(d) 17 m 20 cm by 5

1 m = 100 cm

= (17 × 100 + 20) cm

= 1720 cm

So, 17 m 20 cm ÷ 5

= 344 cm

= (300 + 44) cm

= 33 m 44 cm

```
5 | 1720 | 344
  -15
  ---
   22
  -20
  ---
    20
   -20
   ---
     0
```

(e) 6 dam 372 m by 3

1 dam = 1000 m

= (6 × 1000 + 372) m

= 6372 m

So, 6 dam 372 m ÷ 3

= 2124 m

= (2000 + 124) m

= 2 dam 124 m

```
3 | 6372 | 2124
  -6
  ---
   03
   -3
   --
    07
    -6
    --
     12
    -12
    ---
      0
```

(f) 18 dm 97 mm by 7

1 dm = 100 mm

= (18 × 100 + 97) mm

= 1897 mm

So, 18 dm 97 mm ÷ 7

= 271 mm

= (200 + 71) mm

= 2 dm 71 mm

```
7 | 1897 | 271
  -14
  ---
   49
  -49
  ---
    07
    -7
    --
     0
```

2. Divide the following :

(a) 24 kg 370 g by 5

1 kg = 1000 g

= (24 × 1000 + 370) g

= 24370 g

So, 24 kg 370 g ÷ 5

= 4874 g

= (4000 + 874) g

= 4 kg 874 g

```
5 | 24370 | 4874
  -20
  ---
   43
  -40
  ---
    37
   -35
   ---
     20
    -20
    ---
      0
```

(b) 340 kg 720 g by 4 (1 kg = 1000g)

= (34 × 1000 + 720) g

= 340720g

So, 340 kg 720 g ÷ 4

= 85180 g

= (85000 + 180) g

= 85 kg 180 g

```
4 | 340720 | 85180
  -32
  ---
   20
  -20
  ---
    7
   -4
   --
    32
   -32
   ---
     0
```

(c) 8 hg 96 g by 8

1 hg = 100 g

= (8 × 100 + 96) g

= 896 g

So, 8 hg 96 g ÷ 8 = 112 g

= (100 + 12) g

= 1 hg 12 g

```
8 | 896 | 112
  -8
  --
   09
   -8
   --
    16
   -16
   ---
     0
```

(d) 16 g 404 mg by 6

1 g = 1000 mg

= (16 × 1000 + 404) mg

= 16404 mg

So, 16 g 404 mg ÷ 6

= 2734 mg

= (2000 + 734) mg

= 2 g 734 mg

```
6 | 16404 | 2734
  -12
  ---
   44
  -42
  ---
    20
   -18
   ---
     24
    -24
    ---
      0
```

(e) 28 g 770 mg by 7

(1 g = 1000 mg)

= (28 × 1000 + 770) mg

= 28770 mg

So, 28 g 770 mg ÷ 7

= 4110

= (4000 + 110)

= 4 g 110 mg

```
7 | 28770 | 4110
  -28
  ---
   07
   -7
   --
    07
    -7
    --
     0
```

(f) 62 g 456 mg by 4

(1 g = 1000 mg)

= (62 × 1000 + 456) mg

= 62456

So, 62 g 456 m ÷ 4

= 15614

= (15000 + 614)

```
4 | 62756 | 15614
  -4
  --
   22
  -20
  ---
    24
   -24
   ---
     5
    -4
    --
     16
    -16
    ---
      0
```

= 15 g 614 mg

3. Divide the following :

(a) 15 kl 355 l by 5

1 kl = 1000 l

= (15 × 1000 + 355) l

= 15355 l

So, 15 kl 355 l ÷ 5

= 3071 l

= (3000 + 71) l

= 3 kl 71 l

```
5 | 15355 | 3071
  -15
  ---
   035
   -35
   ---
    05
    -5
    --
     0
```

(b) 7 hl 84 l by 7

1 hl = 1000 l

= (7 × 1000 + 84) l

= 7084 l

So, 7 hl 84 l ÷ 7

= 1012 l

= (1000 + 12) l

= 1 hl 12 l

```
7 | 7084 | 1012
  -7
  --
   008
   -7
   --
    14
   -14
   ---
     0
```

(c) 7 l 320 ml by 4

(1 l = 1000 ml)

= (7 × 1000 + 320) ml

= 7320 ml

So, 7 l 320 ml ÷ 4

= 1830 ml

= (100 + 830) ml

= 1 l 830 ml

```
4 | 7320 | 1830
  -4
  --
   33
   -32
   ---
    12
   -12
   ---
     0
```

(d) 48 kl 560 l by 8

(1 kl = 1000 l)

= (48 × 1000 + 560) l

= 485650 l

So, 48 kl 560 l ÷ 8

= 6070 l

= (6000 + 70) l

= 6 kl 70 l

```
8 | 48560 | 6070
  -48
  ---
    56
   -56
   ---
     0
```

(e) 12 l 540 ml by 2

(1 l = 1000 ml)

= (12 × 1000 + 540) ml

= 12540 ml

So, 12 l 540 ml ÷ 2

= 6270 ml

= (600 + 270) ml

```
2 | 12540 | 6270
  -12
  ---
    5
   -4
   --
    14
   -14
   ---
     0
```

= 6 l 270 ml

(f) 18 l 270 ml by 6

(1 l = 1000 ml)

= (18 × 1000 + 270) ml

= 18270 ml

So, 18 l 270 ml ÷ 6

= 3045 ml

= (3000 + 45) ml

= 3 l 45 ml

```
6 | 18270 | 3045
  -18
  ---
    27
   -24
   ---
    30
   -30
   ---
     0
```

EXERCISE 11.6

1. Distance covered in first hour

= 75 km 340 m

Distance covered in second hour

= 64 km 590 m

Total covered distance in both hours

= 75 km 340 m + 64 km 590 m

= 139 km 930 m

Hence, a car covers 139 km 930 m distance in both two hours.

2. Quantity of milk = 234 kl 255 l

Quantity of milk sold = 185 kl 395 l

Total quantity of milk left

= 234 kl 255 l – 185 kl 395 l

= 48 kl 860 l

Hence, 48 kl 860 l milk is left unsold.

3. Total weight of all things = 105 kg

Weight of wheat = 35 kg 450 g

Weight of rice = 48 kg 655 g

Total weight of wheat and rice

= 35 kg 450 g + 48 kg 655 g

= 84 kg 105 g

So, weight of sugar

= 105 kg – 84 kg 105g

= 20 kg 895 g

Hence, weight of sugar in 20 kg 895 g.

4. A boy runs in one round = 3 km 450m

A boy runs in second round = 6 km 380m

Total distance he covered in second round

= 6 km 380 m – 3 km 450 m

= 2 km 930 m

Hence, he covers 2 km 930 m in second round.

5. Total length of wire = 100 m
Length of 1 piece = 42 m 65 cm
Length of 2 pieces = 39 m 18 cm
Total length of both pieces
= 42 m 65 cm + 39 m 18 cm
= 81 m 83 cm
So, length of remaining wire
= 100 m – 81 m 83 cm
= 18 m 17 cm
Hence, the length of remaining wire is 18 m 17 cm.

6. Milk needs for 1 soldier = 1 l 350 ml
Milk needs for 24 soldiers
= (1 l 350 ml) × 24
= 32 l 400 ml
Hence, 32 l 400 ml milk is required for 24 soldiers.

7. Weight of 1 gas cylinder = 32 kg 340 g
Weight of 8 gas cylinder
= (32 kg 340 g) × 8
= 258 kg 720 g
Hence, weight of 8 cylinder is 258 kg 720 g.

8. A racing car laps in a track
= 25 laps and 350 m track
So, it covered kilometers
= (25 × 350) m = 8750 m
= (8000 + 750) m = 8 km 750 m
Hence, it covered 8 km 750 m.

9. Quantity of sugar divided in 5 person
= 25 kg 480 g
So, quantity of sugar each person get
= 25 kg 480 g ÷ 5 = 25 kg 480 g
= (25 × 1000 + 480) g
= (25000 + 480) g = 25480 g
= 25480 g ÷ 5 = 5096 g
= (5000 + 96 g) = 5 kg 96 g
Hence, 5 kg 96 g sugar each person get.

10. Length of rope = 18 m 72 cm
Number of pieces divided = 9
Hence, length of each piece
= 18 m 72 cm ÷ 9 = 18 m 72 cm
= (18 × 100 + 72) cm
= (1800 + 72) cm = 1872 cm
So, 1872 cm ÷ 9 = 208 cm
= (200 + 8) cm = 2 m 8 cm
Hence, length of each piece is 2 m 8 cm.

12. Perimeter and Area of Rectilinear Figures

EXERCISE 12.1

1. Find the perimeter of the following figures :
(a) Perimeter of ΔABC
= AB + BC + CA
= (3 + 6 + 5.5) cm = 14.5 cm
(b) Perimeter of ABC PEF
= AB + BC + CP + PE + EF + FA
= (6 + 6 + 2 + 4 + 4 + 2) cm
= 24 cm
(c) AB + BC + CD + DE + EA
= (5.5 + 7 + 4 + 3.5 + 6) cm
= 26.0 cm
(d) AB + BC + CD + DA
= (6.5 + 7 + 5.5 + 5) cm
= 24.0 cm

2. Sides of a triangle
= 10 cm, 12 cm, 14 cm
Perimeter of a triangle
= (10 + 12 + 14) cm = 36 CM

3. Length of rectangle = 12 cm
Breadth of rectangle = 9 cm
Perimeter of rectangle
= 2(12 + 9) cm
= 2 × 21 cm = 42 cm
Hence, the perimeter of rectangle is 42 cm.

4. Side of square = 4.5 cm
Perimeter of square = 4 × side
= (4 × 4.5) cm = 18.0 cm

Hence, the perimeter of square is 18 cm.

5. Length of rectangle park = 130 m
Breadth of rectangle park = 95 m
So, the perimeter of rectangle park
$= 2(130 + 95)$ m
$= 2(225)$ m $= 450$ m
Hence, the perimeter of rectangle park of 450 m.
Length of wire required to fence one time = Perimeter of park
$= 450$ m
So, total length of wire needed to fence one time
$= 1 \times 450 = 450$ m
Hence, the length of wire is 450 m.

6. Perimeter of triangular field
$= (120 + 95 + 83)$ m $= 298$ m
Length of wire required to fence one time = Perimeter of field
$= 298$ m
So, total length of wire needed to fence two times
$= 2 \times 298 = 596$ m
Hence, the length of wire is 596 m.

7. Length of rectangle park = 180 m
Breadth of rectangle park = 160 m
Perimeter of rectangle park
$= 2(180 + 160)$ m
$= 2(340)$ m $= 680$ m
Distance covered in one round
= Perimeter of the park
$= 680$ m
So, distance covered in four rounds
$= 680 \times 4 = 2720$ km
Hence, boy covers 2720 km in four rounds.

8. Perimeter of rectangular park
$= 2(140 + 130)$ m
$= 2(270)$ m $= 540$ m
So, the cost of fencing with wire at the rate ₹ 12
$= 540 \times 12 =$ ₹ 6480
Hence, ₹ 6480 fencing with wire.

9. Side of square park = 75 m
Perimeter of square = 4 × side
$= (4 \times 75)$ m $= 300$ m
Tinish walking 300 m in a park.
Now, Deepanshu is walking in a rectangular park.
So, perimeter of rectangular park
$= 2(80 + 65)$ m
$= 2(145)$ m $= 290$ m
So, distance cover more both of them
$= (300 - 280)$ m $= 10$ m
Hence, Tinish cover 10 m more distance.

10. Length of triangle
$= 15$ cm, 13 cm, 10 cm
So, perimeter of triangle
$= (15 + 13 + 10)$ cm
$= 38$ cm
She decorate its boundary with a colourful strip twice.
So, length of strip
$= 2 \times 38$ cm $= 76$ cm
Hence, length of strip 76 cm.

EXERCISE 12.2

1. Base of triangle = 10 cm
Height of triangle = 6 cm
Area of triangle $= \frac{1}{2} \times$ base × height
$= \frac{1}{2} \times 10^5 \times 6$ cm^2
$= 30$ cm^2
Hence, the area of triangle is 30 cm^2.

2. Length of rectangle = 10 cm
Breadth of rectangle = 7 cm
Area of rectangle = Length × Breadth
$= (10 \times 7)$ cm
$= 70$ cm^2
Hence, the area of rectangle is 70 cm^2.

3. Side of given square = 6.5 cm
Area of square = Side × Side
$= (6.5 \times 6.5)^2$ cm^2
$= 42.25$ cm^2
Hence, area of square is 42.25 cm^2.

4. Area of rectangle = 1400 cm^2
Length of rectangle = 40 cm
So, breadth of rectangle

$$= \frac{\text{Area of rectangle}}{\text{Length}}$$

$$= \frac{1400^{35}}{40_1} = 35 \text{ cm}$$

Hence, breadth of rectangle is 35 cm.

5. Length of rectangle park = 120 m
Breadth of rectangle = 105 m
Area of rectangle = (120 × 105) m^2
= 12600 m^2
Hence, area of rectangle is 12600 m^2.

6. Length of rectangle field = 180 m
Breadth of rectangle field = 165 m
Area of rectangle field
= Length × Breadth
= (180 × 165) m^2
= 29700 m^2
Hence, area of rectangle field is 29700 m^2.

7. Side of given square garden = 125 m
Area of square = Side × Side
= (125 × 125) m^2
= 15625 m^2
Hence, the area of square garden is 15625 m^2.

8. Side of given square field = 85 m
Area of given square field = Side × Side
= (85 × 85) m^2
= 7225 m^2
Hence, area of square field is 7225 m^2.

9. Area of rectangular park = 13200 m^2
Length of rectangular park = 120 m
Area of rectangular park
= Length × Breadth
13200 = 120 × breadth

$$\text{Breadth} = \frac{13200}{120} = 110 \text{ m}$$

Hence, the breadth of the park is 110 m.

10. Area of rectangular field = 21000 m^2
Breadth of rectangular field = 140 m
So, Area = Length × Breadth
21000 m^2 = Length × 140

$$\text{Length} = \frac{21000}{140} = 150 \text{ m}$$

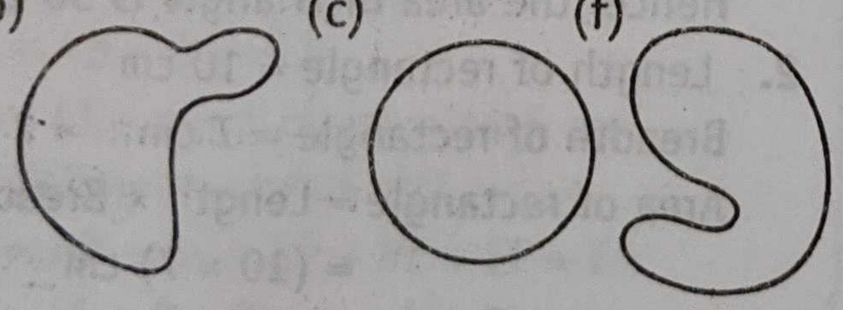
Hence, the length of park is 150 m.

13. Geometrical Shapes

EXERCISE 13.1

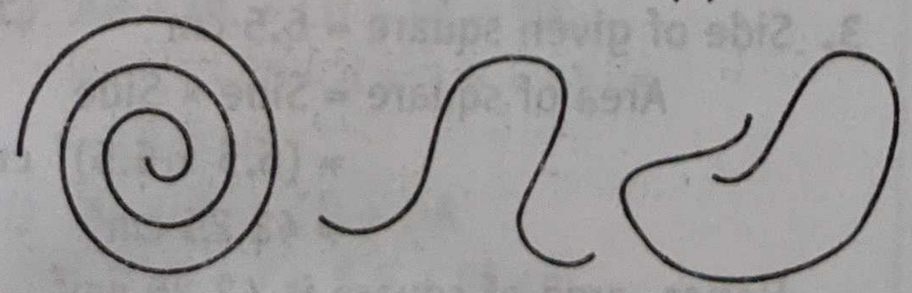
1. Which of the following are simple closed curves?

(b) (c) (f)



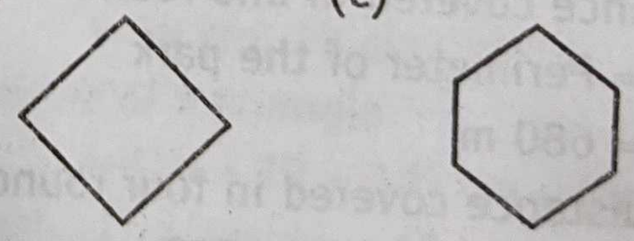
2. Which of the following are open curves?

(a) (c) (e)

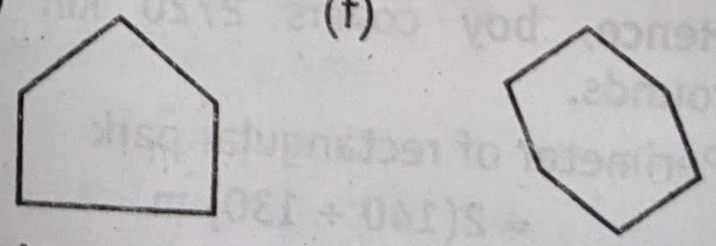


3. Which of the following are polygons?

(a) (c)



(d) (f)



4. Fill in the blanks :
(a) 3-sides (b) equal (c) equal
(d) 5-sides (e) heptagon (f) hexagon
(g) starting (h) their starting

EXERCISE 13.2

1. Name and measure the following angles :
   Do it yourself.
2. Classify the following angles as acute, right, obtuse, reflex, straight angle :
   (a) obtuse (b) right (c) acute
   (d) obtuse (e) straight (f) acute
   (g) obtuse (h) reflex (i) acute
   (j) obtuse (k) reflex (l) obtuse
3. Draw the angles of following measurement :
   Do it yourself.
4. Fill in the blanks :
   (a) less than
   (b) more than 90°, less than 180°
   (c) 90° (d) 180°
   (e) more than 180°, 360°

EXERCISE 13.3

1. Measure the sides and classify the following triangles according to their sides :
   Do it yourself.
2. Classify each triangle according to angles:
   (a) Obtuse angled triangle
   (b) right angled triangle
   (c) acute angled triangle
   (d) obtuse angled triangle
   (e) right angled triangle
   (f) acute angled triangle
3. Find the unknown value in the following triangles :
   (a) Sum of angle of a triangle is 180°.

$$\text{So, } \angle A + \angle B + \angle C = 180°$$
$$x° + 80° + 40° = 180°$$
$$x° + 120° = 180°$$
$$x° = 180° - 120°$$
$$x° = 60°$$

(b) $\angle A + \angle B + \angle C = 180°$
$30° + y° + 40° = 180°$
$70° + y° = 180°$
$y° = 180° - 70°$
$y° = 110°$

(c) $\angle A + \angle B + \angle C = 180°$
$90° + 40° + z° = 180°$
$130° + z° = 180°$
$z° = 180° - 130°$
$z° = 50°$

(d) $\angle A + \angle B + \angle C = 180°$
$w° + 30° + 125° = 180°$
$w° + 155° = 180°$
$w° = 180° - 155°$
$w° = 25°$

(e) $\angle A + \angle B + \angle C = 180°$
$x° + 50° + 80° = 180°$
$x° + 130° = 180°$
$x° = 180° - 130°$
$x° = 50°$

(f) $\angle A + \angle B + \angle C = 180°$
$90° + 35° + y° = 180°$
$125° + y° = 180°$
$y° = 180° - 125°$
$x° = 55°$

4. Fill in the blanks :
   (a) scalene (b) isosceles (c) sides
   (d) 180° (e) one

Comulative Revision - IV

1. Convert the following :
   (a) 8169 m into km
   $8169 \div 1000 = 8.169$ km
   (b) 25 g 15 mg into mg (1 g = 1000 mg)
   $= (25 \times 1000 + 15)$ mg
   $= (25000 + 15) = 25015$ mg
   (c) 5168 ml into dal

$$1 \text{ ml} = \frac{1}{10000} \text{ dal} = 5168 \div 10000$$
$$= 0.05168 \text{ dal}$$

   (d) 17 hl 63 l into l (1 hl = 100 l)
   $= (17 \times 100 + 63)$ l
   $= (1700 + 63)$l = 1763 l

2. 1 l = 1000 ml
   $= (24 \times 1000 + 560)$ ml = 24560 ml
   So, 24 l 560 ml ÷ 8
   = 3070 ml
   = (3000 + 70) ml
   = 3 l 70 ml

$$8\overline{)24560}\,3070$$
$$-24\downarrow\downarrow$$
$$56$$
$$-56\downarrow$$
$$0$$

3. (a) Length of rectangle = 12 cm
   Breadth fo rectangle = 4 cm
   Perimeter of rectangle = 2 (12 + 4)cm
   $= 2 \times 16$ cm = 32 cm
   (b) Sides of a triangle = 7 cm, 5cm, 6cm
   Perimeter of a triangle = (7 + 5 + 6)cm

= 18 cm

4. (a) Angle = ∠POQ (b) Angle = MNP

5. (a) Sum of angle of a triangle is 180°

So, $\angle A + \angle B + \angle C = 180°$

$35° + Y° + 25° = 180°$

$60 + Y° = 180°$

$Y° = 180° - 60°$

$Y° = 120°$

(b) $\angle A + \angle B + \angle C = 180°$

$90° + 38° + Y° = 180°$

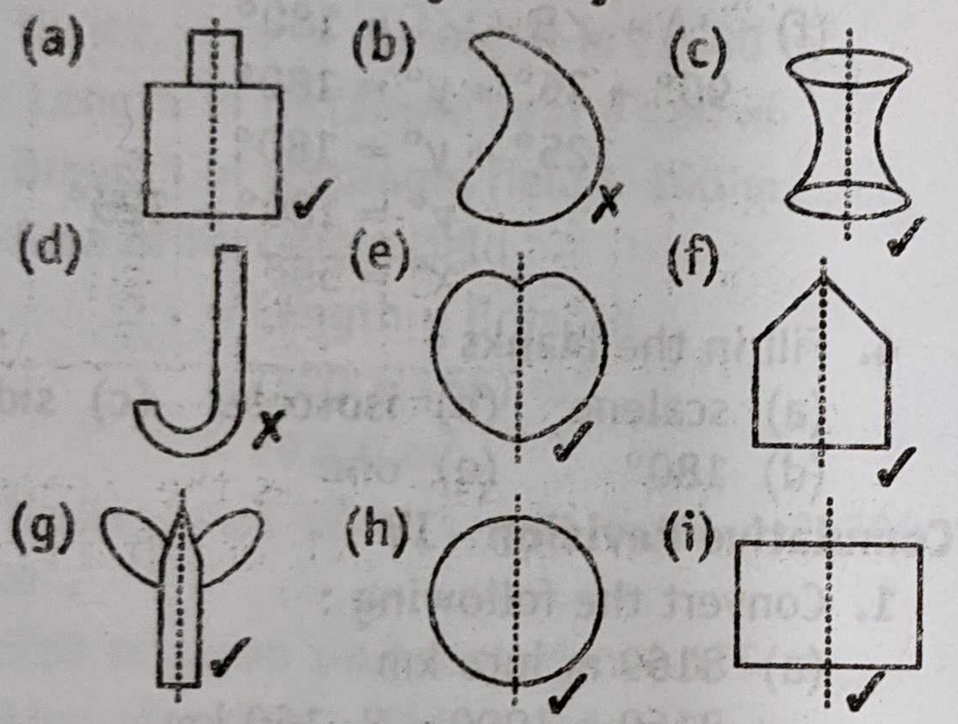
$Y° = 180° - 128°$

$Y° = 52°$

14. Line Symmetry

EXERCISE 14.1

1. Tick (✓) which of the following figures or objects are symmetrical in shape? Draw also line of symmetry :



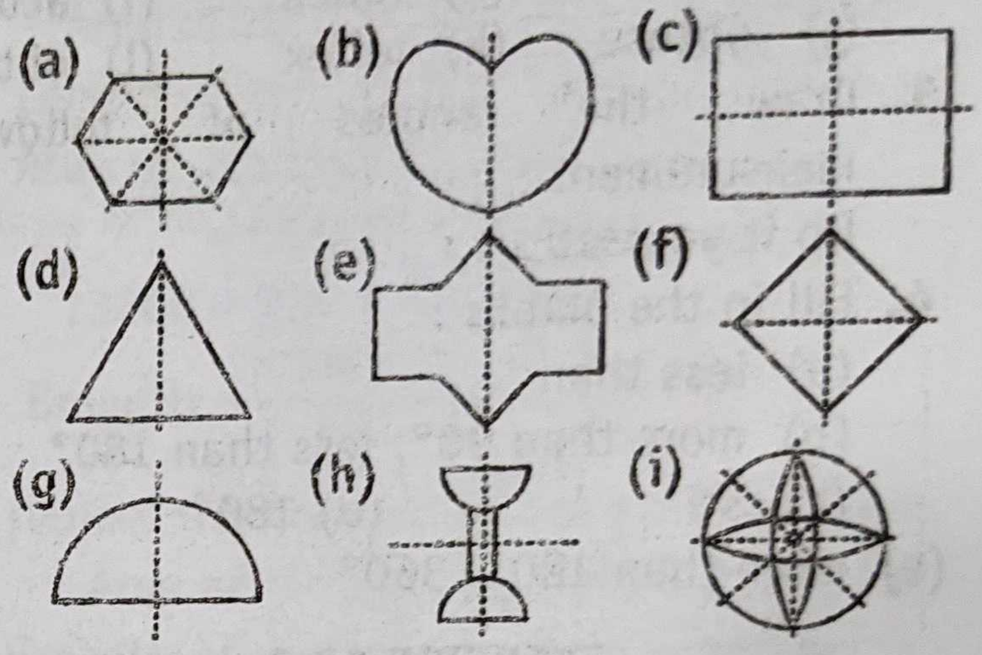
2. Is dotted line a line of symmetry in the following figures?

(a) no (b) yes (c) yes

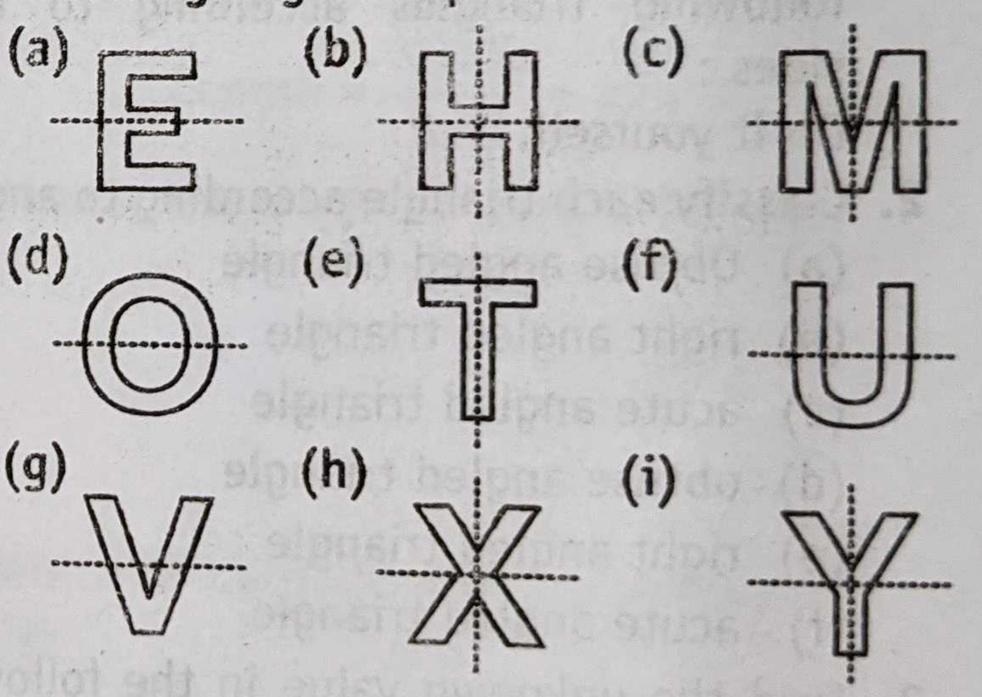
(d) yes (e) no (f) no

(g) yes (h) yes (i) no

3. Draw the lines of symmetry for the following figures :



4. Draw the lines of symmetry in the following English alphabets :



15. Data Presentation

EXERCISE 15.1

1. Number of different vegetables growing in Meena's kitchen garden are given below :

(a) 100 (b) 80 (c) 120

(d) Tomato and radish

(e) 650

2. Following pictograph shows the number of books of different subjects in school library :

(a) 250 (b) 300

(c) Mathematics

(d) English and General Knowledge

(e) 1650

3. Draw the pictograph for following data :

1 picture represent 100 brand

Pepsi	
Coke	
Mirinda	
Maaza	

4. Draw the pictograph for following data :
1 picture represent 10 balls

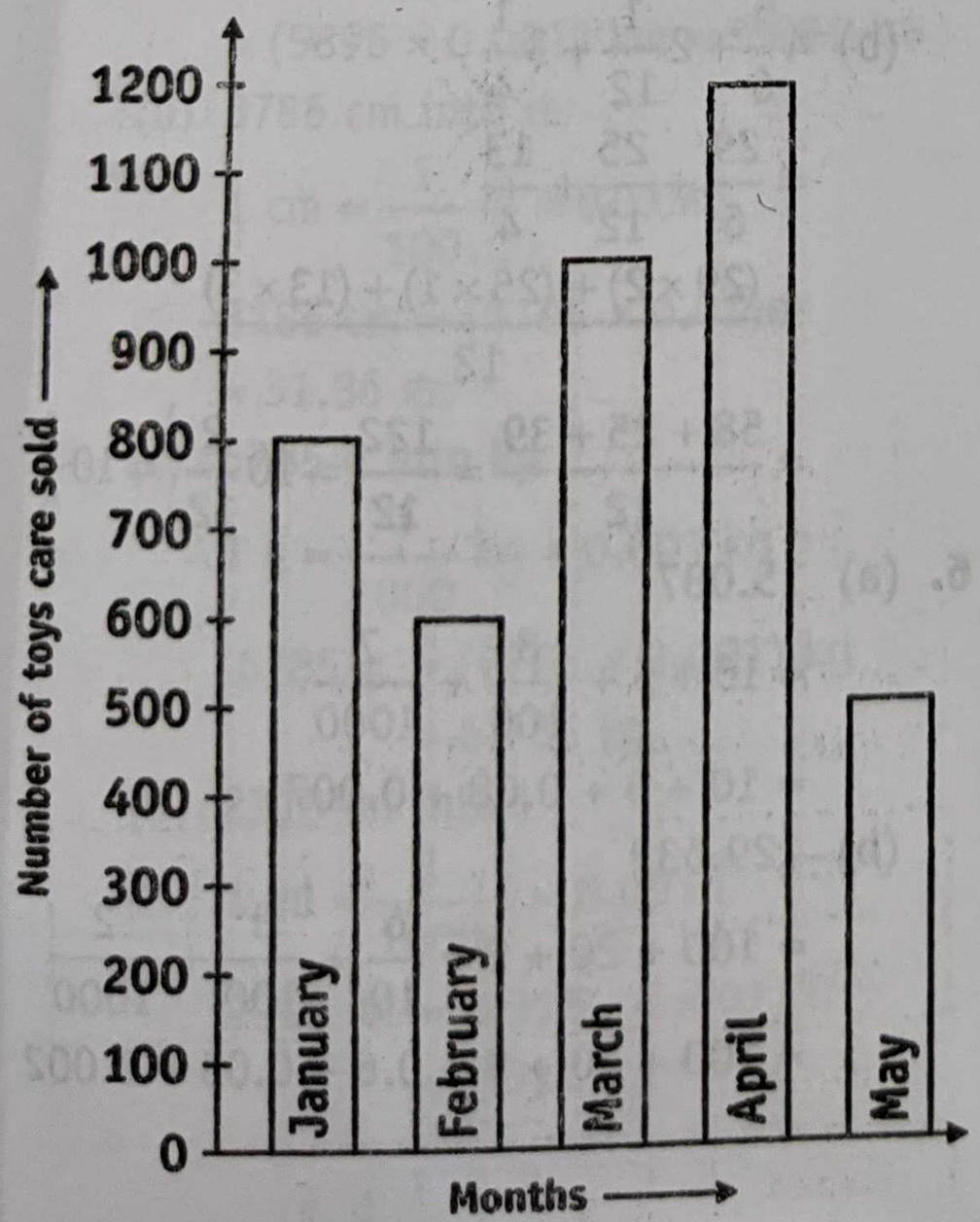
Hockey Balls	
Footballs	
Cricket Balls	
Tennis Balls	

5. Given data is related to number of dishes eaten by customers in a hotel :
1 duses represent 10

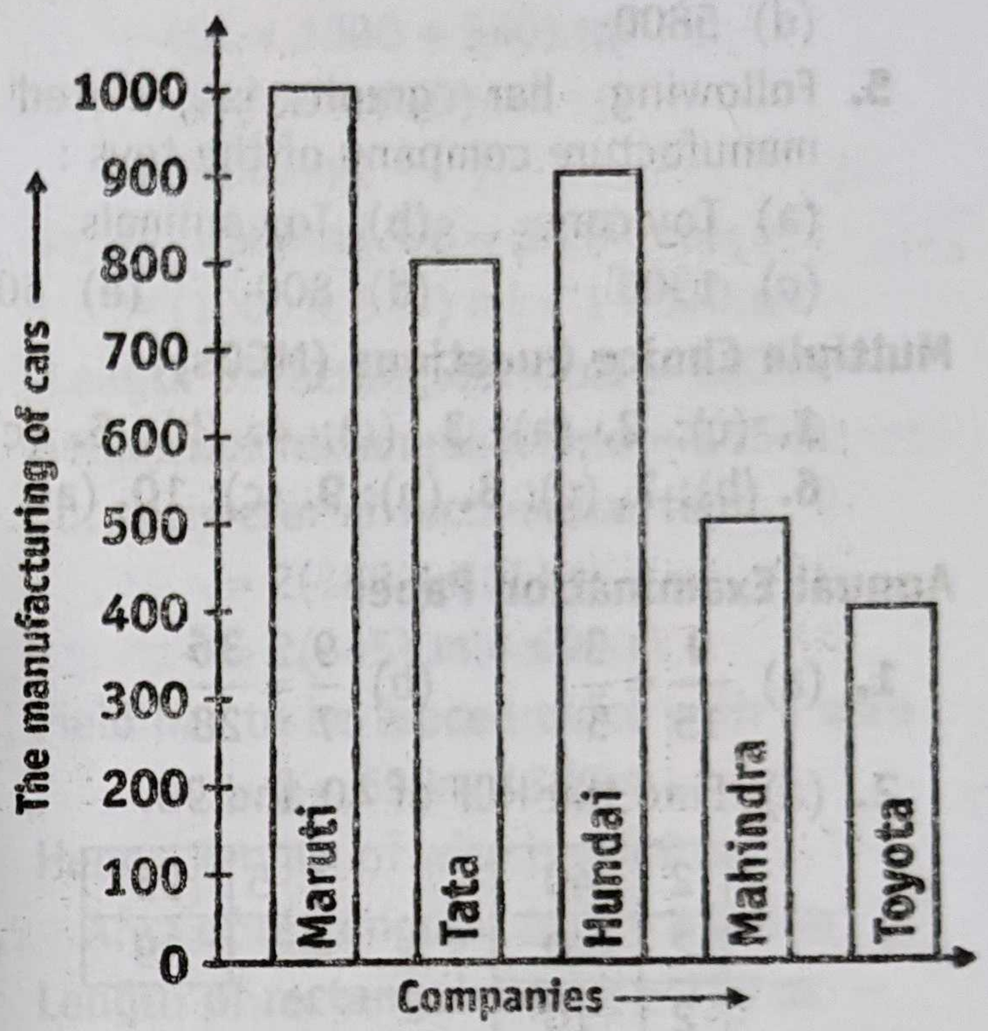
Pizza	
Noddles	
Dosa	
Burger	
Pasta	

EXERCISE 15.2

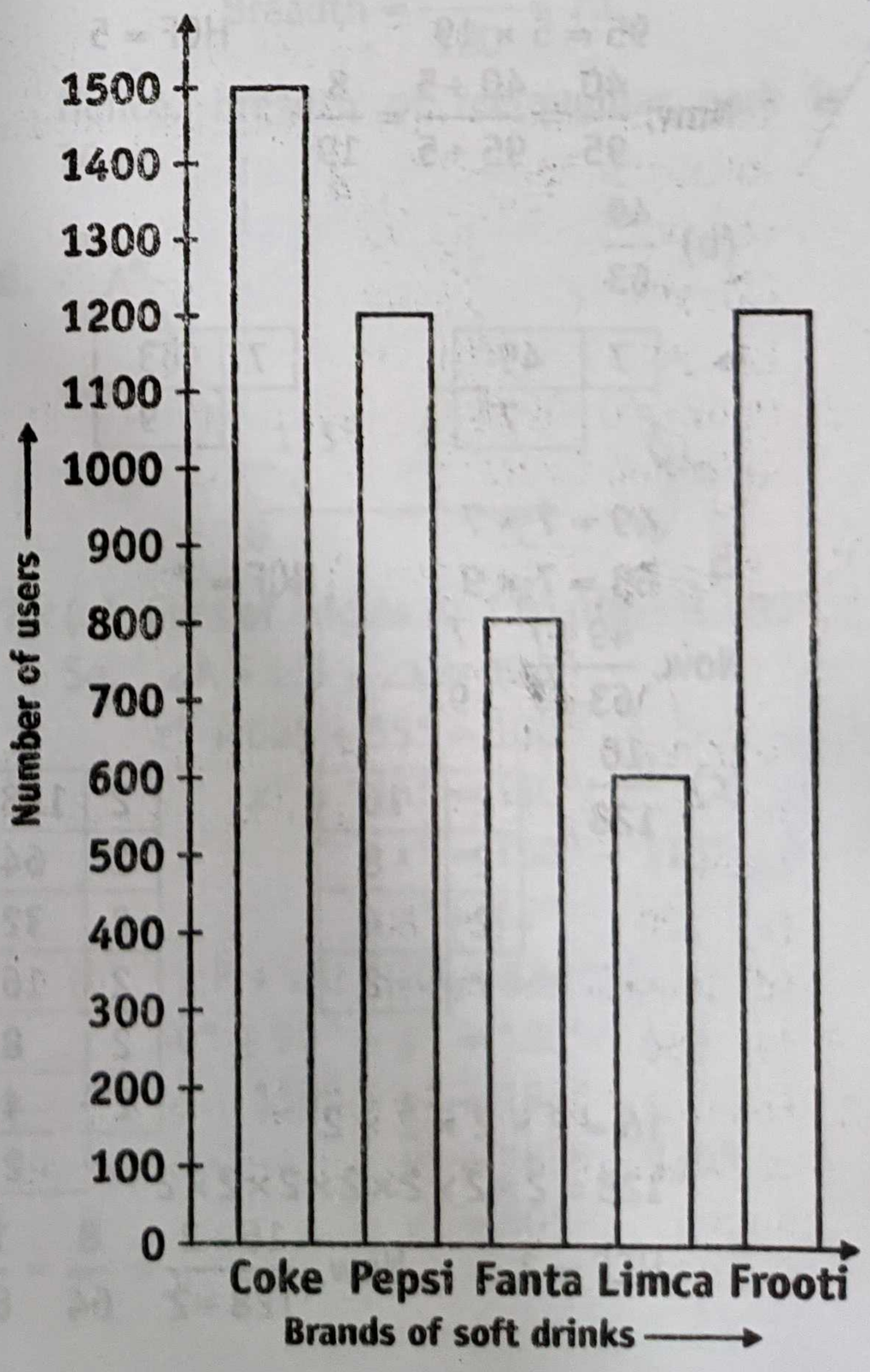
1. Following data shows the sale of toys cars by a shopkeeper in five consecutive months :



2. Following data shows the manufacturing of cars by different companies in year 2010 :



3. The following data shows the number of users of different brands of soft drinks :



4. Observe the following bar graph :

(a) December (b) October

(c) August and November

(d) 5800

5. Following bar graph is related to manufacture company of the toys :

(a) Toy cars (b) Toy animals

(c) 1300 (d) 800 (e) 6000

Multiple Choice Questions (MCQs)

1. (c); **2.** (a); **3.** (c); **4.** (b); **5.** (c); **6.** (b); **7.** (c); **8.** (b); **9.** (c); **10.** (a).

Annual Examination Paper

1. (a) $\frac{9}{15}=\frac{3}{5}$ (b) $\frac{9}{7}=\frac{36}{28}$

2. (a) Find the HCF of 40 and 95.

2	40
2	20
2	10
	5

5	95
	19

$40 = 2 \times 2 \times 2 \times 5$

$95 = 5 \times 19$ HCF = 5

Now, $\frac{40}{95}=\frac{40\div5}{95\div5}=\frac{8}{19}$

(b) $\frac{49}{63}$

7	49
	7

7	63
	9

$49 = 7 \times 7$

$63 = 7 \times 9$ HCF = 7

Now, $\frac{49\div7}{63\div7}=\frac{7}{9}$

(c) $\frac{16}{128}$

2	16
2	8
2	4
	2

2	128
2	64
2	32
2	16
2	8
2	4
	2

$16 = 2 \times 2 \times 2 \times 2$

$128 = 2\times2\times2\times2\times2\times2\times2$

HCF = 2, Now, $\frac{16\div2}{128\div2}=\frac{8}{64}=\frac{1}{8}$

(d) $\frac{117}{169}$

13	117
	9

13	169
	13

$117 = 13 \times 9$

$169\ 13 \times 13$ HCF = 13

Now, $\frac{117\div13}{169\div13}=\frac{9}{13}$

3. $\frac{4}{5}, \frac{7}{20}, \frac{8}{15}, \frac{11}{25}$

(LCM is = 300)

So, $\frac{4}{5}=\frac{4\times60}{5\times60}=\frac{240}{300}, \frac{7}{20}=\frac{7\times15}{20\times15}=\frac{105}{300}$

$\frac{8}{15}=\frac{8\times20}{15\times20}=\frac{160}{300}, \frac{11}{25}=\frac{11\times12}{15\times12}=\frac{132}{300}$

So, $\frac{105}{300}<\frac{132}{300}<\frac{160}{300}<\frac{240}{300}$

$=\frac{7}{20}<\frac{11}{25}<\frac{8}{15}<\frac{4}{5}$

4. (a) $\frac{5}{8}+\frac{3}{16}+\frac{5}{24}$

$=\frac{(5\times6)+(3\times3)+(5\times2)}{48}$

$=\frac{30+9+10}{48}=\frac{49}{48}=1\frac{1}{48}$

(b) $4\frac{5}{6}+2\frac{1}{12}+3\frac{1}{4}$

$=\frac{29}{6}+\frac{25}{12}+\frac{13}{4}$

$=\frac{(29\times2)+(25\times1)+(13\times3)}{12}$

$=\frac{58+25+39}{12}=\frac{122}{12}=10\frac{2}{12_6}^{1}=10\frac{1}{6}$

6. (a) 15.087

$= 10 + 5 + \frac{8}{100} + \frac{7}{1000}$

$= 10 + 5 + 0.08 + 0.007$

(b) 129.632

$= 100 + 20 + 9 + \frac{6}{10} + \frac{3}{100} + \frac{2}{1000}$

$= 100 + 20 + 9 + 0.6 + 0.03 + 0.002$

8. (a)
$$\begin{array}{r} {\scriptstyle ②}\,9.1240 \\ 13.6128 \\ +\,38.4160 \\ \hline 61.1528 \end{array}$$

(b)
$$\begin{array}{r} {\scriptstyle ①}\,\not{2}\not{0}.\not{0}\not{0}\not{0} \\ -\,10.096 \\ \hline 09.904 \end{array}$$

9. (a) 8 km 35 m into m
$= (8 \times 1000 + 35)$ m
$= (8000 + 35)$ m $= 8035$ m

(b) 19 kg 450 g into g
$= (19 \times 1000 + 450)$ g
$= (19000 + 450)$ g $= 19450$ g

(c) 17 hl 35 l into l
1 hl $= 100$ l
$= (17 \times 100 + 35)$ l
$= (1700 + 35)$ l $= 1735$ l

(d) 18 l 55 ml into ml
1 l $= 1000$ ml
$= (18 \times 1000 + 55)$ml
$= (18000 + 55)$ ml $= 18055$ ml

10. When information about a quantity is given in vertical columns or horizantal columns, then the graph is called a bar graph.

11. (a) 5896 m into km
$$1 \text{ m} = \frac{1}{1000} \text{ km} = 0.001 \text{ km}$$
$= (5896 \times 0.001)$ km $= 5.896$ km

(b) 3786 cm into m
$$1 \text{ cm} = \frac{1}{100} \text{ m} = 0.01 \text{ m}$$
3186 cm $= (3186 \times 0.01)$m
$= 31.86$ m

(c) 6785 g into kg
$$1 \text{ g} = \frac{1}{1000} \text{ kg} = 0.001 \text{ kg}$$
6785 g $= (6785 \times 0.001)$ kg
$= 6.785$ kg

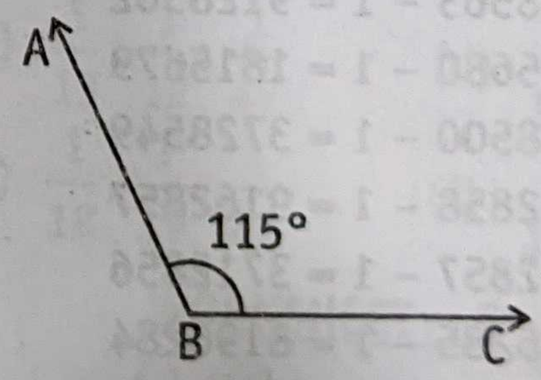
(d) 2318 ml into l
$$1 \text{ ml} = \frac{1}{1000} \text{ l} = 0.001 \text{ l}$$
2318 ml $= (2318 \times 0.001)$ l
$= 2.318$ l

12. 317 km 418 m $\times$ 5
$= 1587$ km 090 m

13. 84 l 560 ml by 8
$= (84 \times 1000 + 560)$ ml
$= (84000 + 560)$ ml
$= 84560$ ml
So, 84 l 560 ml $\div$ 8 $= 10570$ ml
$= (1000 + 570)$ ml $= 1$ l 570 ml

14. Length of rectangular field = 180 m
Breadth of rectangular field = 165 m
So, perimeter of rectangular field
$= 2(180 + 165)$ m
$= 2(345)$ m $= 690$ m
Field has to be fenced twice with a wire
$= 2 \times 690 = 1380$ m
Hence, length of wire is 1380 m.

15. Area of rectangular park = 8400 m^2
Length of rectangular park = 120 m
So, area of rectangle = Length $\times$ Breadth
$$8400 = 120 \times \text{Breadth}$$
$$\text{Breadth} = \frac{8400}{120} = 70$$
Hence, breadth of rectangular park is 70 m.

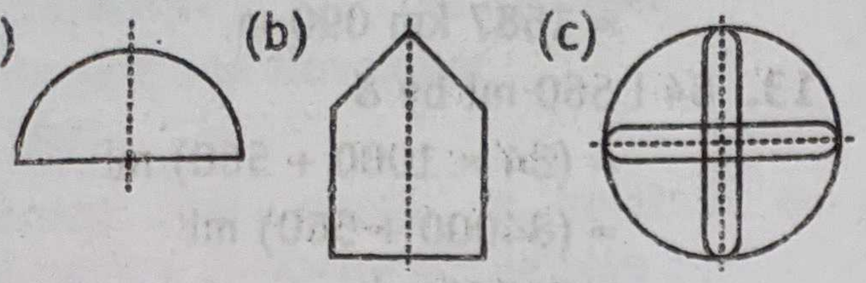
16.


17. (a) Sum of angles of a triangle is 180°.
So, $\angle A + \angle B + \angle C = 180°$
$x° + 60° + 55° = 180°$
$x° + 115° = 180°$
$x° = 180° - 115°$
$x° = 65°$

(b) $\angle P + \angle Q + \angle R = 180°$
$40° + 90° + y° = 180°$
$130° + y° = 180°$
$y° = 180° - 130°$
$y° = 50°$

18. Draw the line of symmetry :

(a) (b) (c)



19. Length of wire = 200 m

Cut in 1 piece = 68 m 85cm

Cut in 2 pieces = 72 m 67 cm

Total length of 2 pieces

= 68 m 85 cm + 72 m 67 cm

= 141 m 52 cm

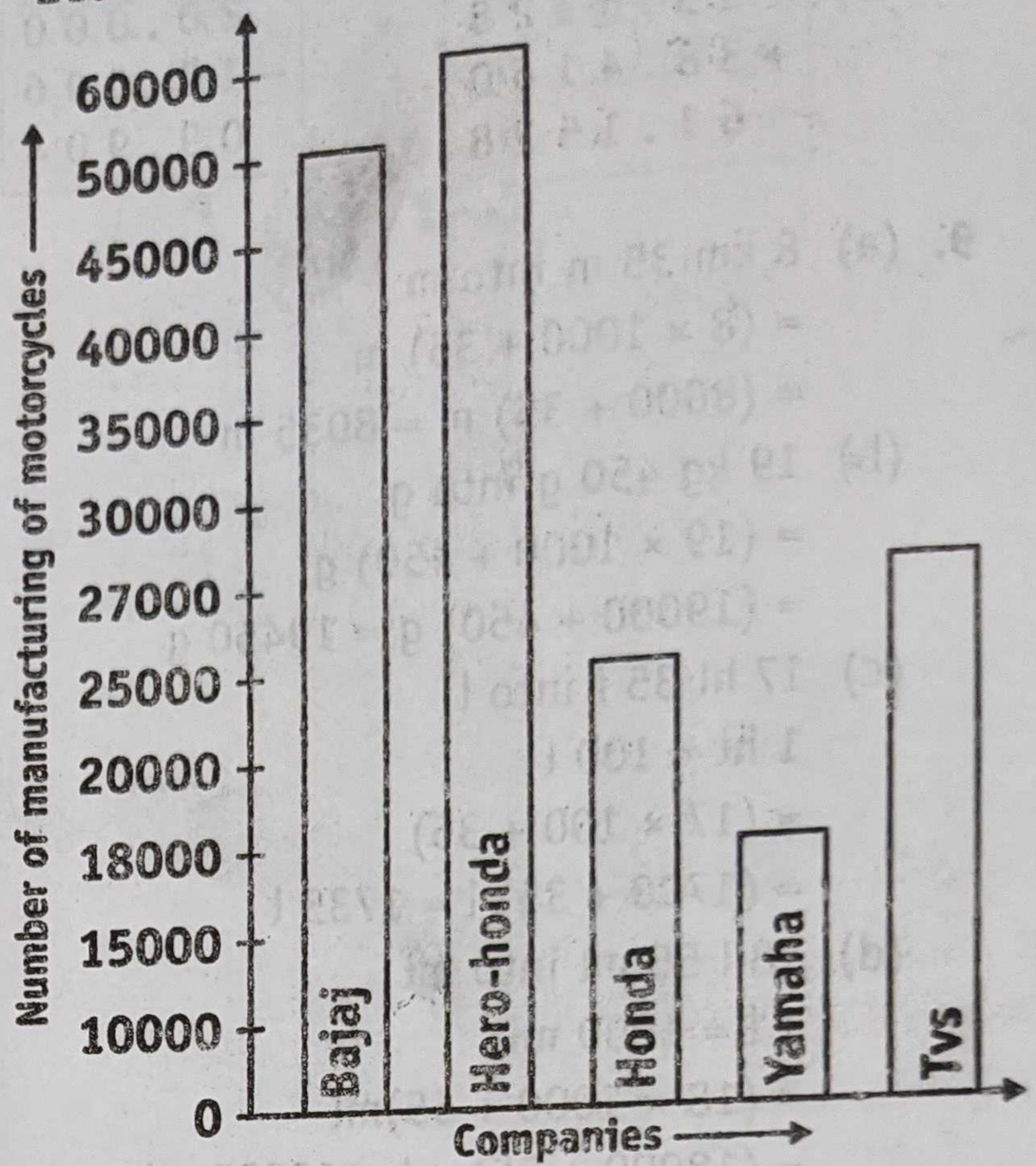
So, the length of remaining wire

= (200 m – 141 m 52 cm)

= 58 m 48 cm

Hence, length of remaining wire is 58 m 48 cm.

20.



Mental Mathematics

WORKSHEET – 1

1. (a) 7285963 – 1 = 7285962

(b) 815628 – 1 = 815627

(c) 3172850 – 1 = 3172849

(d) 9128563 – 1 = 9128562

(e) 1815680 – 1 = 1815679

(f) 3728500 – 1 = 3728549

(g) 9162858 – 1 = 9162857

(h) 3712857 – 1 = 3712856

(i) 8196285 – 1 = 8196284

(j) 3720080 – 1 = 3720079

2. (a) 4528963 + 1 = 4528964

(b) 7128569 + 1 = 7128570

(c) 9128534 + 1 = 9128535

(d) 5967285 + 1 = 5967286

(e) 6728572 + 1 = 6728573

(f) 372859 + 1 = 372860

(g) 7628519 + 1 = 7628520

(h) 37285009 + 1 = 37285010

(i) 1328567 + 1 = 1328568

(j) 9128562 + 1 = 9128563

3. (a) 372857 (b) 392855

(c) 728561 (d) 3791858

(e) 4956727 (f) 135968

(g) 4005929 (h) 5289563

WORKSHEET – 2

1. 8 × 3 = 24

2. 12 × 7 = 84, 12 × 8 = 96

3. 15 × 7 = 105 **4.** 22 × 4 = 88

5. 18 × 8 = 144 **6.** 9 × 9 = 81

WORKSHEET – 3

10 = 2, 5, 10

18 = 1, 2, 6, 18

25 = 1, 25

48 = 1, 2, 3, 8, 16, 48

36 = 3, 4, 6, 12, 36

50 = 5, 10, 50

65 = 1, 5, 65

85 = 17, 85

70 = 2, 7, 10, 35, 70

90 = 2, 3, 9, 10, 30, 90

WORKSHEET – 4

1. (a)

2	8
2	4
	2

2	24
2	12
2	6
	3

$8 = 2 \times 2 \times 2$

$24 = 2 \times 2 \times 2 \times 3$

HCF $= 2 \times 2 \times 2 = 8$

(b)

2	40
2	20
2	10
	5

2	50
5	25
	5

$40 = 2 \times 2 \times 2 \times 5$

$50 = 2 \times 5 \times 5$

HCF $= 2 \times 5 = 10$

(c)

3	45
3	15
	5

2	60
2	30
3	15
	5

$45 = 3 \times 3 \times 5$

$60 = 2 \times 2 \times 3 \times 5$

HCF $= 3 \times 5 = 15$

(d)

2	72
2	36
2	18
3	9
	3

2	108
2	54
3	27
3	9
	3

$72 = 2 \times 2 \times 2 \times 3 \times 3$

$108 = 2 \times 2 \times 3 \times 3 \times 3$

HCF $= 2 \times 2 \times 3 \times 3 = 36$

2. (a)

2	60
2	30
3	15
	5

2	90
3	45
3	15
	5

$60 = 2 \times 2 \times 3 \times 5$

$90 = 2 \times 3 \times 3 \times 5$

LCM $= 2 \times 3 \times 5 \times 2 \times 3 = 180$

(b)

2	50
5	25
	5

2	90
3	45
3	15
	5

$50 = 2 \times 5 \times 5$

$90 = 2 \times 3 \times 3 \times 5$

LCM $= 2 \times 5 \times 5 \times 3 \times 3 = 450$

(c)

3	75
5	25
	5

2	120
2	60
2	30
3	15
	5

$75 = 3 \times 5 \times 5$

$120 = 2 \times 2 \times 2 \times 3 \times 5$

LCM $= 3 \times 5 \times 2 \times 2 \times 2 \times 5 = 600$

(d)

3	45
3	15
	5

5	85
	17

$45 = 3 \times 3 \times 5$

$85 = 5 \times 17$

LCM $= 5 + 3 \times 3 \times 17 = 765$

WORKSHEET – 5

1. (a) $\frac{10}{14}, \frac{20}{28}$ (b) $\frac{9}{20}, \frac{15}{50}$

(c) $\frac{22}{30}$ (d) $\frac{51}{69}$

2. (a) $\frac{1}{8}, \frac{1}{6}, \frac{1}{8}$ (b) $\frac{1}{10}, \frac{1}{7}$

(c) $\frac{1}{13}, \frac{1}{12}, \frac{1}{47}$ (d) $\frac{1}{17}, \frac{1}{27}, \frac{1}{19}$

(e) $\frac{1}{18}, \frac{1}{19}, \frac{1}{27}$ (f) $\frac{1}{18}, \frac{1}{19}$

WORKSHEET – 6

2. $(7+8)+\left(\frac{1}{9}+\frac{3}{9}\right)=15+\frac{4}{9}=15\frac{4}{9}$

4. $(5+6)+\left(\frac{1}{7}+\frac{3}{14}\right)=11+\left(\frac{2+3}{14}\right)=11\frac{5}{14}$

5. $(3+7)+\left(\frac{4}{8}+\frac{3}{8}\right)=10+\left(\frac{7}{8}\right)=10\frac{7}{8}$

6. $(7+4)+\left(\frac{1}{10}+\frac{5}{10}\right)=11+\frac{6}{10}=11\frac{6}{10}$

8. $(8-3)+\left(\frac{5}{12}-\frac{3}{12}\right)=5+\frac{2}{12}=5\frac{2}{12}$

9. $(11-8)+\left(\frac{3}{13}-\frac{1}{13}\right)=3+\frac{2}{13}=3\frac{2}{13}$

WORKSHEET – 4

1. (a)

2	8
2	4
	2

2	24
2	12
2	6
	3

$8 = 2 \times 2 \times 2$

$24 = 2 \times 2 \times 2 \times 3$

$HCF = 2 \times 2 \times 2 = 8$

(b)

2	40
2	20
2	10
	5

2	50
5	25
	5

$40 = 2 \times 2 \times 2 \times 5$

$50 = 2 \times 5 \times 5$

$HCF = 2 \times 5 = 10$

(c)

3	45
3	15
	5

2	60
2	30
3	15
	5

$45 = 3 \times 3 \times 5$

$60 = 2 \times 2 \times 3 \times 5$

$HCF = 3 \times 5 = 15$

(d)

2	72
2	36
2	18
3	9
	3

2	108
2	54
3	27
3	9
	3

$72 = 2 \times 2 \times 2 \times 3 \times 3$

$108 = 2 \times 2 \times 3 \times 3 \times 3$

$HCF = 2 \times 2 \times 3 \times 3 = 36$

2. (a)

2	60
2	30
3	15
	5

2	90
3	45
3	15
	5

$60 = 2 \times 2 \times 3 \times 5$

$90 = 2 \times 3 \times 3 \times 5$

$LCM = 2 \times 3 \times 5 \times 2 \times 3 = 180$

(b)

2	50
5	25
	5

2	90
3	45
3	15
	5

$50 = 2 \times 5 \times 5$

$90 = 2 \times 3 \times 3 \times 5$

$LCM = 2 \times 5 \times 5 \times 3 \times 3 = 450$

(c)

3	75
5	25
	5

2	120
2	60
2	30
3	15
	5

$75 = 3 \times 5 \times 5$

$120 = 2 \times 2 \times 2 \times 3 \times 5$

$LCM = 3 \times 5 \times 2 \times 2 \times 2 \times 5 = 600$

(d)

3	45
3	15
	5

5	85
	17

$45 = 3 \times 3 \times 5$

$85 = 5 \times 17$

$LCM = 5 + 3 \times 3 \times 17 = 765$

WORKSHEET – 5

1. (a) $\frac{10}{14}, \frac{20}{28}$ (b) $\frac{9}{20}, \frac{15}{50}$

(c) $\frac{22}{30}$ (d) $\frac{51}{69}$

2. (a) $\frac{1}{8}, \frac{1}{6}, \frac{1}{8}$ (b) $\frac{1}{10}, \frac{1}{7}$

(c) $\frac{1}{13}, \frac{1}{12}, \frac{1}{47}$ (d) $\frac{1}{17}, \frac{1}{27}, \frac{1}{19}$

(e) $\frac{1}{18}, \frac{1}{19}, \frac{1}{27}$ (f) $\frac{1}{18}, \frac{1}{19}$

WORKSHEET – 6

2. $(7+8)+\left(\frac{1}{9}+\frac{3}{9}\right)=15+\frac{4}{9}=15\frac{4}{9}$

4. $(5+6)+\left(\frac{1}{7}+\frac{3}{14}\right)=11+\left(\frac{2+3}{14}\right)=11\frac{5}{14}$

5. $(3+7)+\left(\frac{4}{8}+\frac{3}{8}\right)=10+\left(\frac{7}{8}\right)=10\frac{7}{8}$

6. $(7+4)+\left(\frac{1}{10}+\frac{5}{10}\right)=11+\frac{6}{10}=11\frac{6}{10}$

8. $(8-3)+\left(\frac{5}{12}-\frac{3}{12}\right)=5+\frac{2}{12}=5\frac{2}{12}$

9. $(11-8)+\left(\frac{3}{13}-\frac{1}{13}\right)=3+\frac{2}{13}=3\frac{2}{13}$

18 Draw the line of symmetry.

10. $(15-13)+\left(\frac{4}{8}-\frac{3}{8}\right)=2+\frac{1}{8}=2\frac{1}{8}$

19

11. $(8-5)+\left(\frac{13}{17}-\frac{6}{17}\right)=3+\left(\frac{7}{17}\right)=3\frac{7}{17}$

12. $(4-2)+\left(\frac{3}{10}-\frac{1}{5}\right)=2+\left(\frac{3-2}{10}\right)=2\frac{1}{10}$

WORKSHEET – 7

1. $\frac{1}{100}$, $\frac{5}{100}$, $\frac{3}{5}$, $\frac{6}{1000}$, $\frac{7}{100}$, $\frac{2}{10}$ — 0.2, 0.006, 0.01, 0.05, 0.3, 0.07

M

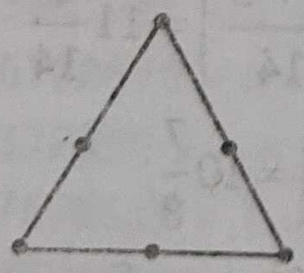
1

2. (b) $\frac{9}{10}$ (c) $\frac{15}{100}$ (d) $\frac{18}{100}$
(e) $\frac{67}{100}$ (f) $\frac{59}{1000}$ (g) $\frac{129}{1000}$
(h) $\frac{318}{1000}$

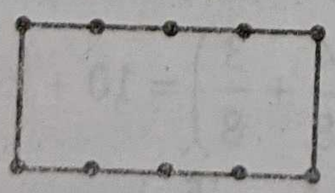
3. (b) $62\frac{18}{100}$ (c) $13\frac{68}{100}$ (d) $72\frac{35}{100}$
(e) $19\frac{2}{100}$ (f) $21\frac{2}{1000}$ (g) $128\frac{91}{100}$
(h) $134\frac{78}{1000}$

2.

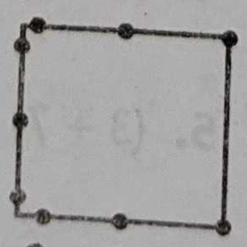
WORKSHEET - 8



$1+2+3=6$

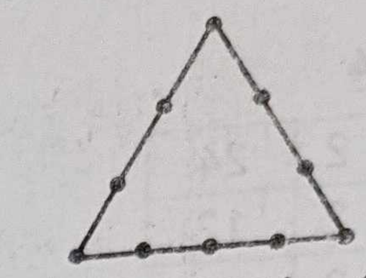


$4\times2=8$

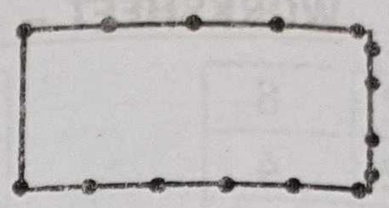


$3\times3=9$

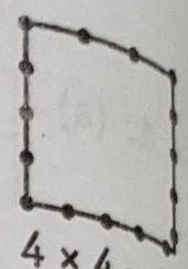
3.



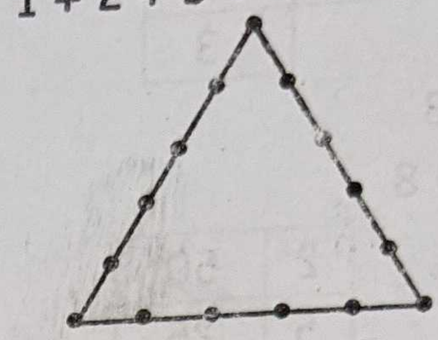
$1+2+3+4=10$



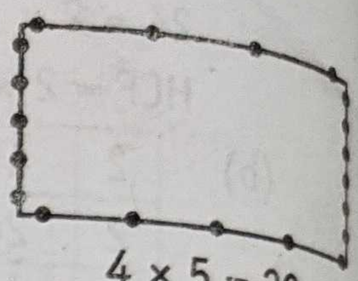
$3\times5=15$



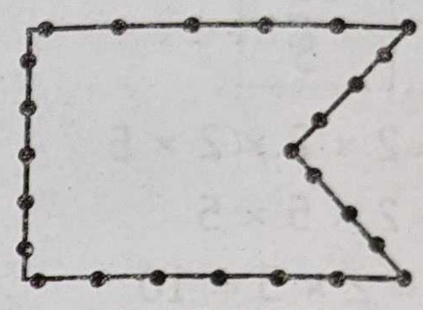
$4\times4=16$



$1+2+3+4+5=15$



$4\times5=20$



$5\times5=25$

WORKSHEET – 9

1. (a) meter (b) kilogram
(c) km (d) kg (e) g
(f) m (g) kg (h) kg
(i) ml (j) mm

2. (a) 2000 (b) 6000
(c) 100 (d) 800
(e) $\frac{1}{300}=0.03$ (f) $\frac{1}{1600}=0.016$
(g) 3000 (h) $\frac{1}{29000}=0.0029$
(i) 1000 (j) $\frac{1}{19200}=0.0192$
(k) $\frac{1}{1000}=0.001$
(l) $\frac{1}{8400}=0.084$
(m) $\frac{1}{600}=0.06$
(n) $\frac{1}{36200}=0.00362$

Maths Mind
Part - V

1. Symmetry and Patterns

EXERCISE 1.1

1. (a) All the capital letters of the English alphabet that are symmetrical about a vertical axis (such as A).

A H I M O T U V W X

(b) All the capital letters of the English alphabet that are symmetrical about a horizontal axis (such as B).

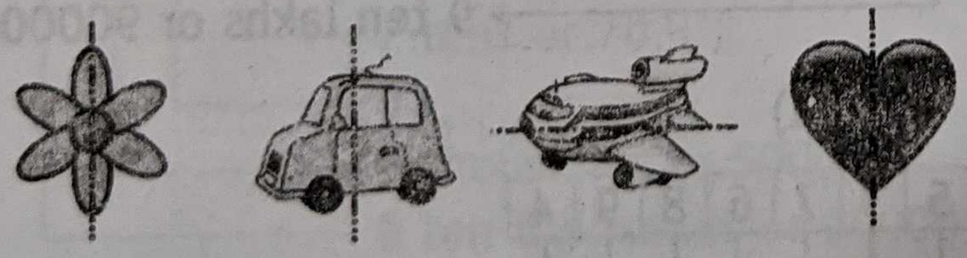
B C D E H I K O X

(c) All the capital letters of the English alphabet that are symmetrical about both the axis are.

H O X

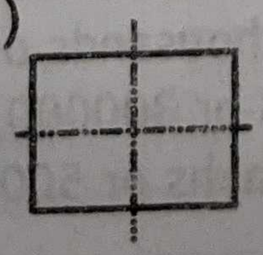
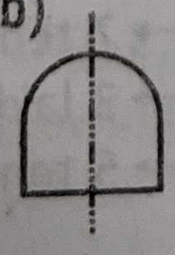
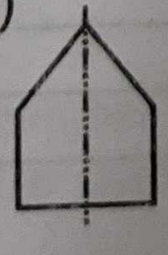
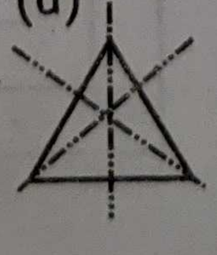
(d) All the capital letters of the English alphabet that have no axis of symmetry are.

F G J L P Q R

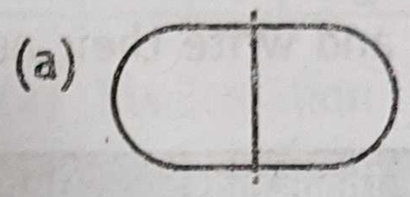
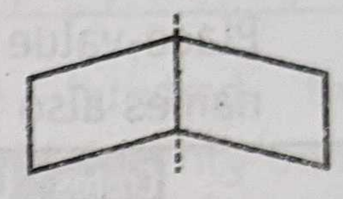
2. 

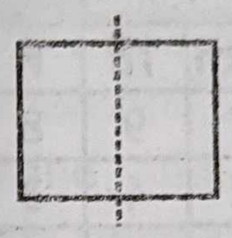
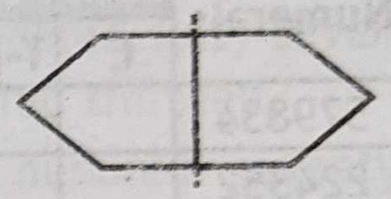
EXERCISE 1.2

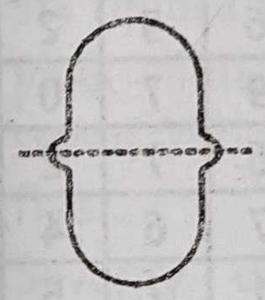
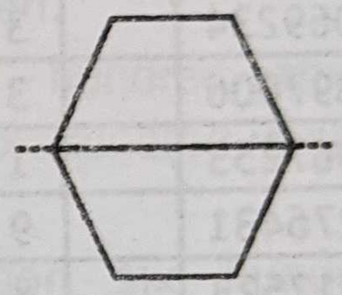
1. Draw the line (s) of symmetry for each of the following :

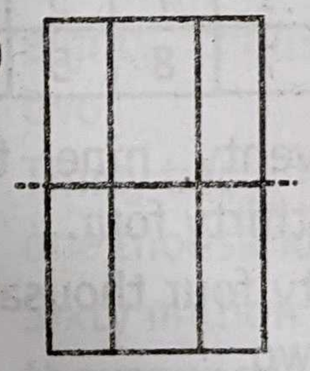
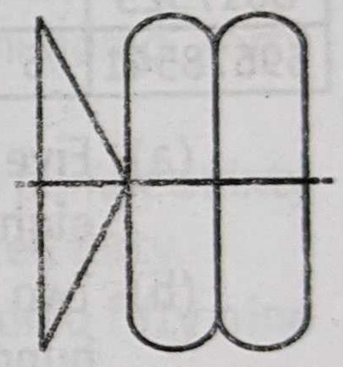
(a)  (b)  (c)  (d) 

2. Complete the following symmetrical shapes.

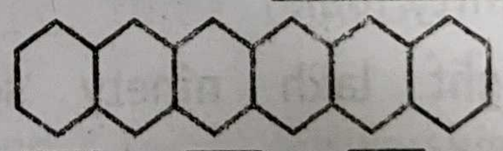
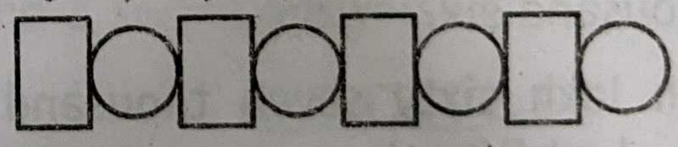
(a)  (b) 

(c)  (d) 

(e)  (f) 

(g)  (h) 

EXERCISE 1.3

1. 
2. 
3. D D P P M M Y Y Z Z

EXERCISE 1.4

Do yourself.

EXERCISE 1.5

1. (a) $5,^{\times 3}$ $15,^{\times 3}$ $45,^{\times 3}$ $135,^{\times 3}$ $405,^{\times 3}$ $1215,^{\times 3}$ 3645
   (b) $6,^{+5}$ $11,^{+5}$ $16,^{+5}$ $21,^{+5}$ $26,^{+5}$ $31,^{+5}$ $36,^{+5}$ 41
   (c) $5,^{+7}$ $12,^{+7}$ $19,^{+7}$ $26,^{+7}$ $33,^{+7}$ $40,^{+7}$ 47
2. 11 22 33 44 55 66 77 88 99 Both two digits are in-creasing by 1.

3. 12 24 36 48 60 72 84 96 108 120
First digit E are increasing by 1 to 10 and then by 2. second digit are increasing by multiples of a 2 till 48 and then start with 0 and then multiples of 2 and then 0.

2. Large Numbers

EXERCISE 2.1

1. See in answersheet.
2. Write the following numerals in Indian Place-value chart and write their number names also :

Numerals	Crores	Lakhs		Thousands		Ones		
	C	T-L	L	T-th	Th	H	T	O
579834			5	7	9	8	3	4
224352			2	2	4	3	5	2
3069234		3	0	6	9	2	3	4
3897006		3	8	9	7	0	0	6
1067253		1	0	6	7	2	5	3
9276431		9	2	7	6	4	3	1
8617523		8	6	1	7	5	2	3
59678541	5	9	6	7	8	5	4	1

(a) Five lakh seventy nine thousand eight hundred thirty four.

(b) Two lakh twenty four thousand three hundred fifty two.

(c) Thirty lakh sixty nine thousand two hundred thirty four.

(d) Thirty eight lakh ninety seven thousand six.

(e) Ten lakh sixty seven thousand two hundred fifty three.

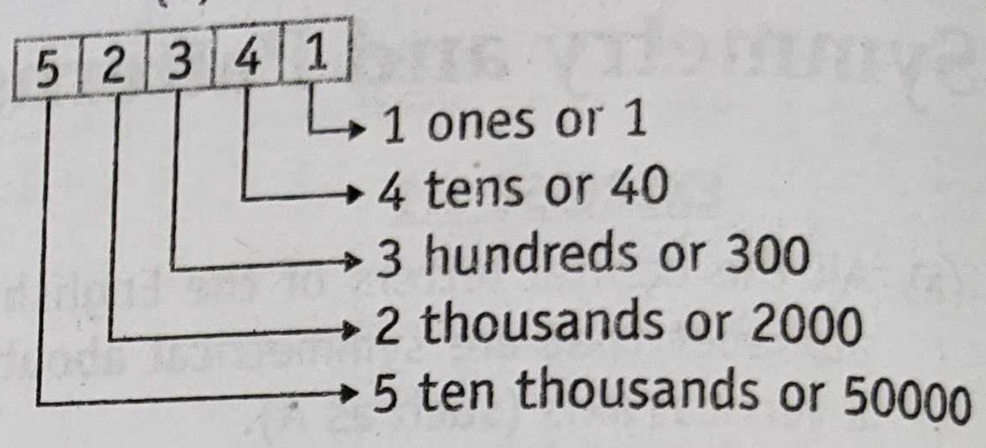
(f) Ninety two lakh seventy six thousand four hundred thirty one.

(g) Eighty six lakh seventeen thousand five hundred twenty three.

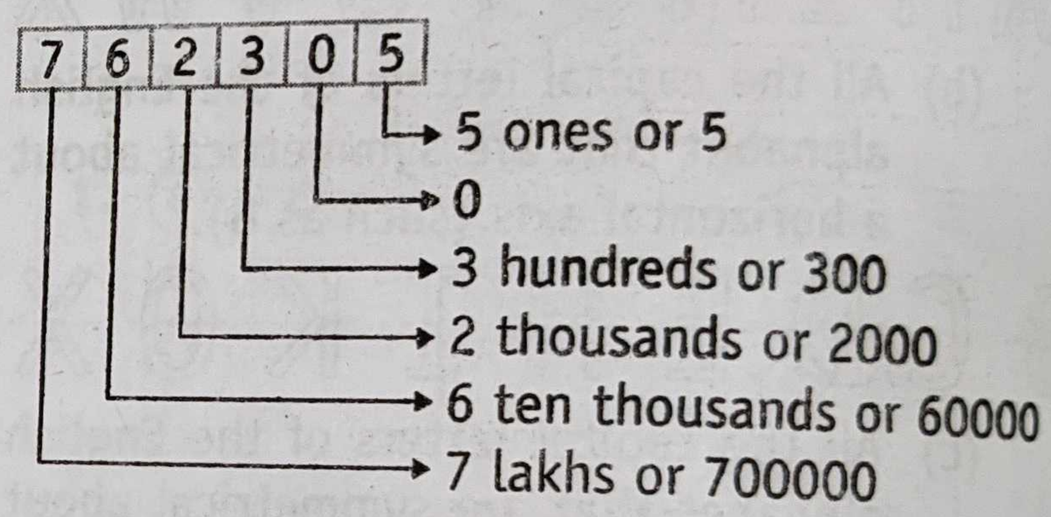
(h) Five crore ninety six lakh seventy eight thousand five hundred forty one.

3. See in answersheet.
4. Write place-value of each digit in the following numerals :

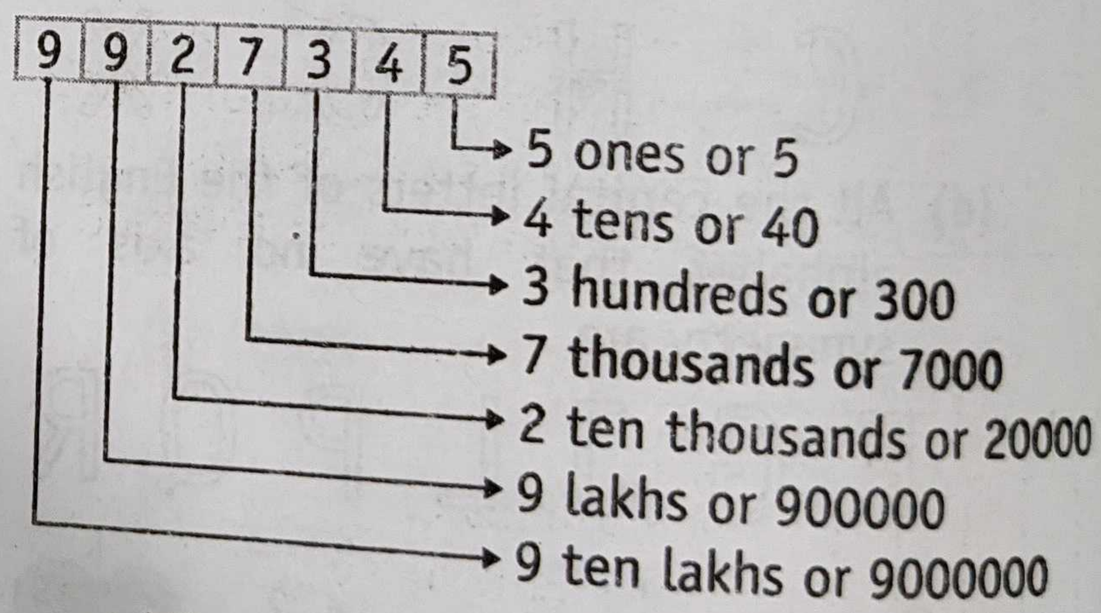
(a)



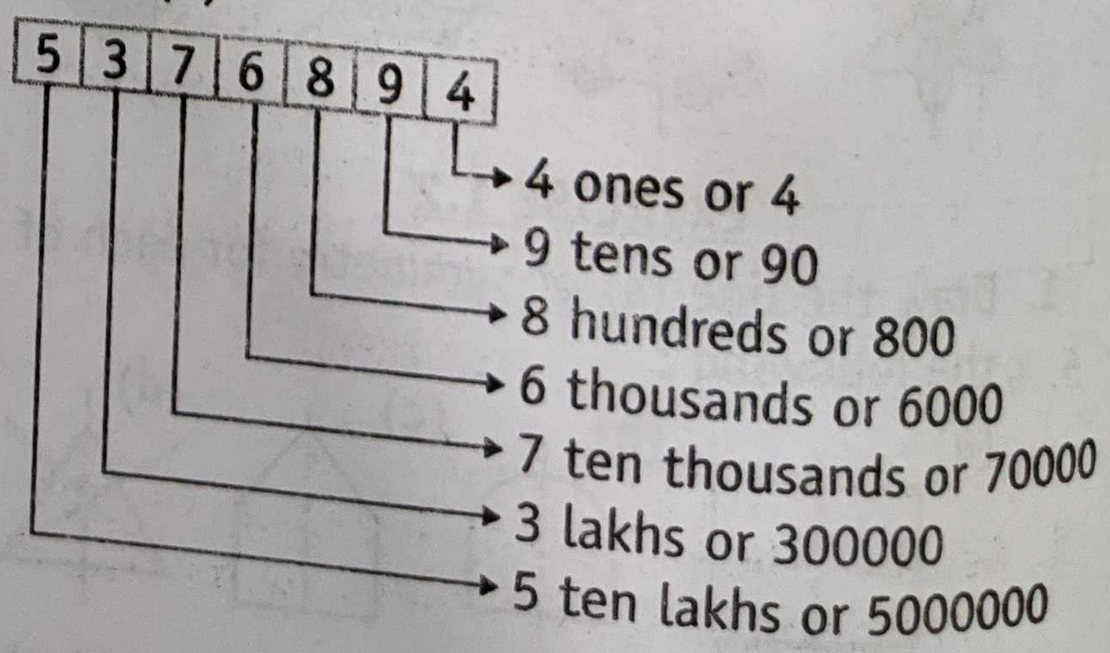
(b)



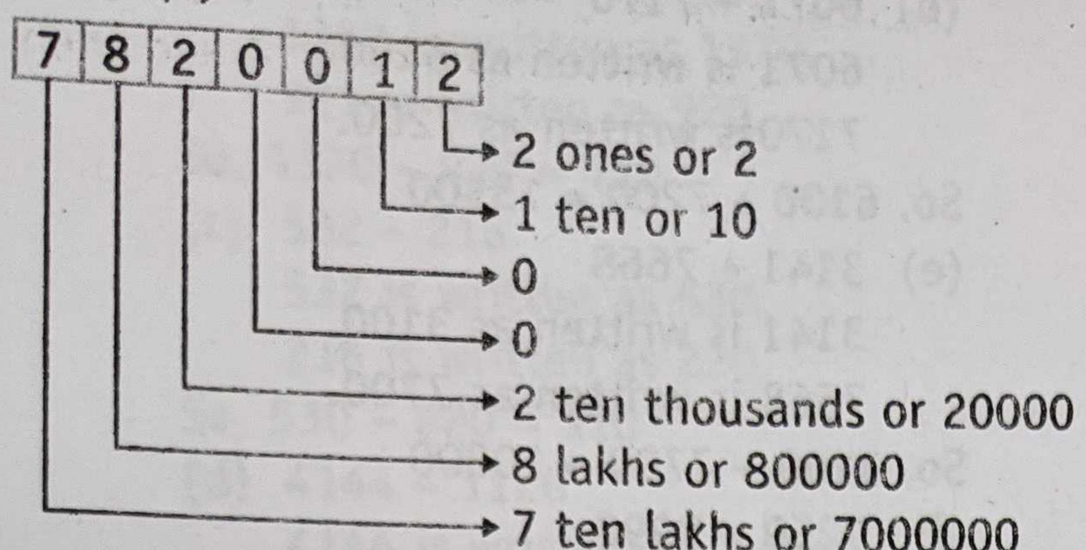
(c)



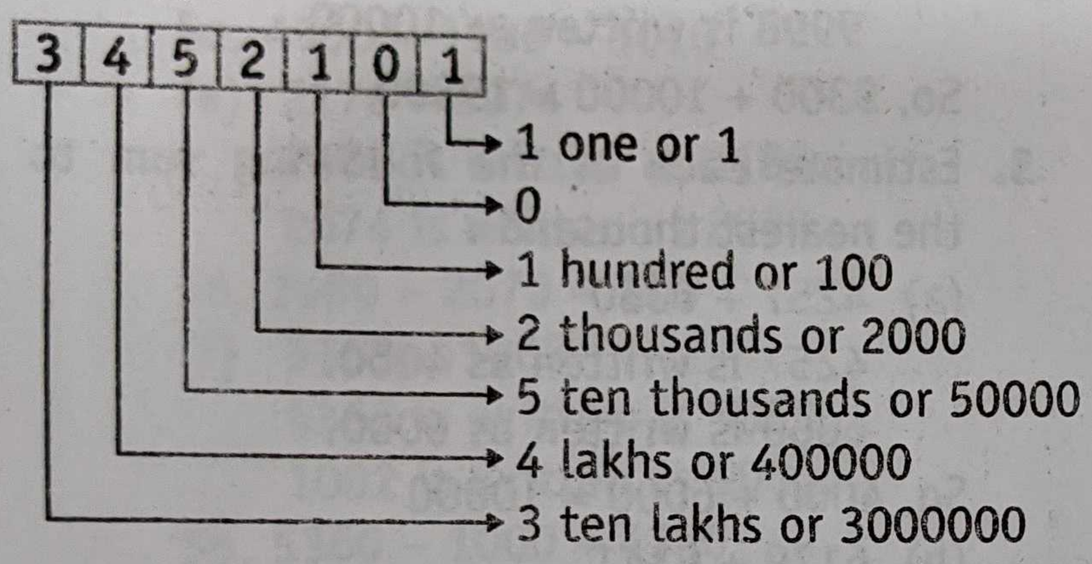
(d)



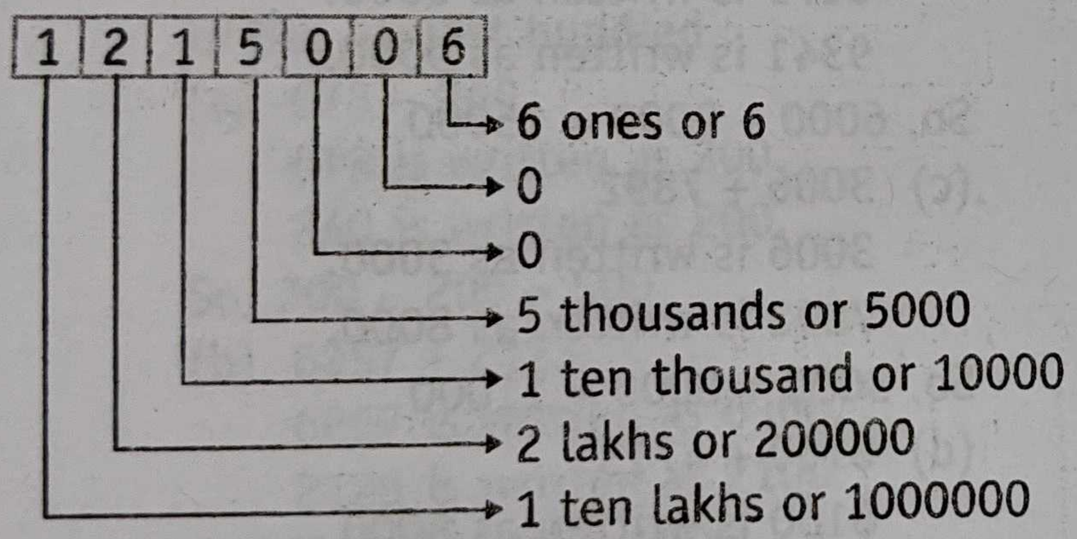
(e)



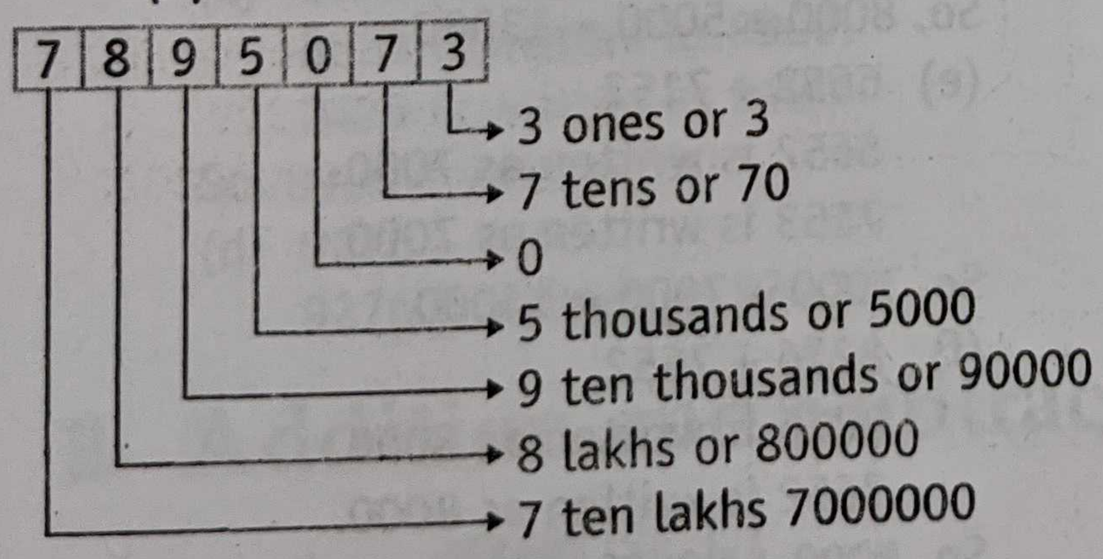
(f)



(g)



(h)



5, 6, 7 and **8** see in answersheet.

EXERCISE 2.2

1. Rewrite the following number in the International system. Also write their number names :

Numerals	Millions			Thousands			Ones		
	H-m	T-m	M	H-th	T-th	Th	H	T	O
6302471			6	3	0	2	4	7	1
5567213			5	5	6	7	2	1	3
9276013			9	2	7	6	0	1	3
5437685			5	4	3	7	6	8	5
72680642		7	2	6	8	0	6	4	2
32761540		3	2	7	6	1	5	4	0
60759871		6	0	7	5	9	8	7	1
19163245		1	9	1	6	3	2	4	5

(a) Six million three hundred two thousand four hundred seventy one.

(b) Five million five hundred sixty seven thousand two hundred thirteen.

(c) Nine million two hundred seventy six thousand thirteen.

(d) Five million four hundred thirty seven thousand six hundred eighty five.

(e) Seventy two million six hundred eighty thousand six hundred forty two.

(f) Thirty two million seven hundred sixty one thousand five hundred forty.

(g) Sixty million seven hundred fifty nine thousand eight hundred seventy one.

(h) Nineteen million one hundred sixty three thousand two hundred forty five.

2 and **3** see in answersheet.

EXERCISE 2.3

1, 2 and **3** see in answersheet.

EXERCISE 2.4

1, 2 and **3** see in answersheet.

EXERCISE 2.5

1. Estimate each of the following sum to the nearest ten :

(a) 56 + 88 + 28

56 is written as 60 (to nearest ten).

88 is written as 90 (to nearest ten).

28 is written as 30 (to nearest ten).

Hence, estimate sum

= 60 + 90 + 30 = 180

(b) 231 + 605 + 502

231 is written as 240. (to nearest hundred)

605 is written as 600. (to nearest hundred)

502 is written as 500. (to nearest hundred)

Hence, estimate sum

= 240 + 600 + 500 = 1340

(c) 349 + 437 + 898

349 is written as 350.

437 is written as 440.

898 is written as 900.

So, 350 + 440+ 900 = 1690

(d) 921 + 989 + 999

921 is written as 920.

989 is written as 990.

999 is written as 1000.

So, 920 + 990 + 1000 = 2910

(e) 221 + 452 + 536

221 is written as 220.

452 is written as 450.

536 is written as 540.

So, 220 + 450 + 540 = 1210

(f) 379 + 551 + 623

379 is written as 380

551 is written as 550

623 is written as 620

So, 380 + 550 + 620 = 1550

2. Estimate each of the following sum to the nearest hundred :

(a) 2857 + 6298

2857 is written as 2900.

6298 is written as 6300.

So, 2900 + 6300 = 9200

(b) 3352 + 9769

3352 is written as 3400.

9769 is written as 9800.

So, 3400 + 9800 = 13200

(c) 207 + 912 + 950

207 is written as 200.

912 is written as 900.

950 is written as 1000.

So, 200 + 900 + 1000 = 2100

(d) 6071 + 7170

6071 is written as 6100.

7170is written as 7200.

So, 6100 + 7200 = 13300

(e) 3141 + 7668

3141 is written as 3100.

7668 is written as 7700.

So, 3100 + 7700 = 10800

(f) 9259 + 9998

9259 is written as 9300.

9998 is written as 10000.

So, 9300 + 10000 = 19300

3. Estimate each of the following sum to the nearest thousand :

(a) 4257 + 6060

4257 is written as 4000.

6060 is written as 6000.

So, 4000 + 6000 = 10000

(b) 6179 + 9341

6179 is written as 6000.

9341 is written as 9000.

So, 6000 + 9000 = 15000

.(c) 3006 + 7892

3006 is written as 3000.

7892 is written as 8000.

So, 3000 + 8000 = 11000

(d) 8160 + 4713

8160 is written as 8000.

4713 is written as 5000.

So, 8000 + 5000 = 13000

(e) 6652 + 7153

6652 is written as 7000.

7153 is written as 7000.

So, 7000 + 7000 = 14000

(f) 8216 + 7652

8216 is written as 8000.

7652 is written as 8000.

So, 8000 + 8000 = 16000

4. Estimate each of the following difference to the nearest ten :

(a) 625 – 136

625 is written as 630.

136 is written as 140.

So, 630 – 140 = 490

(b) 13671 – 921
1367 is written as 1370.
921 is written as 920.
So, 1370 – 920 = 450
(c) 532 – 216
532 is written as 530.
216 is written as 220.
So, 530 – 220 = 310
(d) 4144 – 1126
4144 is written as 4150.
1126 is written as 1130.
So, 4150 – 1130 = 3020
(e) 2176 – 2074
2176 is written as 2180.
2074 is written as 2070.
So, 2180 – 2070 = 110
(f) 5363 – 1002
5363 is written as 5360.
1002 is written as 1000.
So, 5360 – 1000 = 4360

5. Estimate each of the following difference to the nearest hundred :

(a) 673 – 240
673 is written as 700.
240 is written as 200.
So, 700 – 200 = 500
(b) 6257 – 2123
6257 is written as 6300.
2123 is written as 2100.
So, 6300 – 2100 = 4200
(c) 8851 – 2429
8851 is written as 8900.
2429 is written as 2400.
So, 8900 – 2400 = 6500
(d) 9276 – 4153
9276 is written as 9300.
4153 is written as 4200.
So, 9300 – 4200 = 5100
(e) 10117 – 9210
10117 is written as 10100.
9210 is written as 9200.
So, 10100 – 9200 = 900
(f) 34750 – 12037
34750 is written as 34800
12037 is written as 12000
So, 34800 – 12000 = 22800

6. Estimate each of the following difference to the nearest thousand :

(a) 21765 – 10121
21765 is written as 22000.
10121 is written as 10000.
So, 22000 + 1000 = 12000
(b) 76773 – 5235
76773 is written as 77000.
5235 is written as 5000.
So, 77000 – 5000 = 72000
(c) 8187 – 7002
8187 is written as 8000.
7002 is written as 7000.
So, 8000 – 7000 = 1000
(d) 41569 – 31706
41569 is written as 41000.
31706 is written as 31000.
So, 41000 – 31000 = 10000
(e) 26174 – 3147
26174 is written as 26000.
3147 is written as 3000.
So, 26000 – 3000 = 23000
(f) 76767 – 12134
76767 is written as 77000.
12134 is written as 12000.
So, 77000 – 12000 = 65000

3. Addition and Subtraction

EXERCISE 3.1

1. Add the following :

(a)

	L	T-th	Th	H	T	O
	①					
	2	4	3	7	5	3
+	5	9	6	0	2	5
	8	3	9	7	7	8

(b)

	L	T-th	Th	H	T	O
	①		①	①	①	
	2	4	3	9	6	7
+	6	7	4	5	4	3
	9	1	8	5	1	0

(c)

	L	T-th	Th	H	T	O
			①	①		
	4	4	5	6	7	8
+	8	2	1	3	5	0
	12	6	7	0	2	8

(d)

	T-L	L	T-th	Th	H	T	O
				①			
	1	2	1	0	5	3	2
+	2	1	3	0	7	4	5
	3	3	4	1	2	7	7

(e)

	T-L	L	T-th	Th	H	T	O
				①			
	3	7	6	4	9	2	1
+	5	2	3	4	8	1	2
	8	9	9	9	7	3	3

(f)

	T-L	L	T-th	Th	H	T	O
			①				
	6	3	1	9	6	2	5
+	5	2	4	8	3	1	2
	11	5	6	7	9	3	7

2. Arrange in columns and add :

(a)

	L	T-th	Th	H	T	O
	①		①	①		
	2	0	6	9	7	4
	8	5	2	7	1	3
+	8	6	0	0	7	2
	19	1	9	7	5	9

(b)

	L	T-th	Th	H	T	O
	①	①	①	①	①	
	3	1	2	9	6	4
	6	9	9	7	1	9
+	7	0	7	0	5	1
	17	1	9	7	3	4

(c)

	L	T-th	Th	H	T	O
	①		①		①	
	1	2	1	3	1	5
	2	1	2	3	0	6
+	4	7	4	5	2	3
	8	0	8	1	4	4

(d)

	T-L	L	T-th	Th	H	T	O
	①	①	②				
	3	4	5	9	2	3	1
	7	6	0	9	0	1	2
+	8	8	9	9	1	2	0
	19	9	6	7	3	6	3

(e)

	T-L	L	T-th	Th	H	T	O
	②	②	①	②	①		
	6	5	8	5	7	3	1
	6	6	6	7	7	7	1
+	6	8	9	1	9	9	2
	20	1	4	5	4	9	4

(f)

	T-L	L	T-th	Th	H	T	O
	①	①	①	①			
	5	0	5	0	6	0	5
	6	7	6	9	2	3	0
+	8	8	6	6	7	2	1
	20	6	8	6	5	5	6

3. Write the correct digit in place of ✱ :

(a)

	T-L	L	T-th	Th	H	T	O
	3	**3**	5	**9**	6	1	**3**
+	**3**	7	6	4	**9**	5	7
	7	1	2	3	3	7	0

(b)

	T-L	L	T-th	Th	H	T	O
	7	**3**	5	8	**3**	6	1
+	**1**	5	**7**	4	5	**4**	6
	8	9	3	2	9	0	**7**

(c)

	C	T-L	L	T-th	Th	H	T	O
	4	9	**1**	4	**4**	6	3	0
+	**4**	2	3	5	7	3	**8**	**0**
	9	1	5	**0**	2	**0**	1	0

(d)

	C	T-L	L	T-th	Th	H	T	O
	5	**1**	7	0	**7**	6	7	1
+	**3**	7	6	**7**	3	4	**1**	2
	8	9	**3**	8	1	**0**	8	**3**

EXERCISE 3.2

1. Subtract :

(a)

	L	T-th	Th	H	T	O
	③	⑪	⑬		⑥	⑯
	~~4~~	~~2~~	~~3~~	9	~~7~~	~~6~~
−	2	5	7	6	3	8
	1	6	6	3	3	8

(b)

	L	T-th	Th	H	T	O
					⑥	⑫
	8	4	3	9	~~7~~	~~2~~
−	2	1	0	8	5	3
	6	3	3	1	1	9

(c)

	T-L	L	T-th	Th	H	T	O
	⑤	⑰		①	⑩	⑯	⑬
	~~6~~	~~7~~	5	~~2~~	~~1~~	~~1~~	~~3~~
−	4	9	2	1	6	7	5
	1	8	3	0	4	3	8

(d)

	T-L	L	T-th	Th	H	T	O
	⑥	⑨	⑨	⑭	⑩	②	⑫
	~~7~~	~~0~~	~~0~~	~~5~~	~~0~~	~~3~~	~~2~~
−	2	1	7	6	3	0	3
	4	8	2	8	7	2	9

(e)

	T-L	L	T-th	Th	H	T	O
	⑦	⑫				④	⑪
	~~8~~	~~2~~	9	7	6	~~5~~	~~1~~
−		7	6	0	5	3	9
	7	5	3	7	1	1	2

(f)

	T-L	L	T-th	Th	H	T	O
				⑤	⑮	②	⑫
	9	9	7	~~5~~	~~5~~	~~3~~	~~2~~
−	2	5	3	4	8	2	6
	7	4	4	1	7	0	6

2. Arrange in columns and subtract :

(a)

	T-L	L	T-th	Th	H	T	O
					⑧	⑪	⑬
	7	6	1	2	~~9~~	~~2~~	~~3~~
−	3	5	0	2	6	7	5
	4	1	1	0	2	4	8

(b)

	T-L	L	T-th	Th	H	T	O
						⑧	⑬
	9	9	9	8	7	~~9~~	~~3~~
−	8	1	2	3	2	4	7
	1	8	7	5	5	4	6

(c)

	T-L	L	T-th	Th	H	T	O
		⑦	⑩	⑪	⑭	⑩	
	8	~~8~~	~~1~~	~~2~~	~~5~~	~~0~~	7
−	2	5	2	3	7	5	1
	6	2	8	8	7	5	6

(d)

	T-L	L	T-th	Th	H	T	O
	⑧	⑯	⑭	⑪	⑬		
	~~9~~	~~7~~	~~5~~	~~2~~	~~3~~	7	4
−		8	9	8	7	1	3
	8	8	5	3	6	6	1

3. What number should be added to :

(a)

	L	T-th	Th	H	T	O
			③	⑪	⑪		
	3	7	~~4~~	~~2~~	~~1~~	9
−	1	2	0	7	5	2
	2	5	3	3	6	7

(b)

	L	T-th	Th	H	T	O
	④	⑨	⑭	⑩		
	~~5~~	~~0~~	~~5~~	~~0~~	9	3
−	3	4	5	2	6	1
	1	5	9	8	3	2

(c)

	T-L	L	T-th	Th	H	T	O
		(6)	(12)			(4)	(12)
	7	~~7~~	~~2~~	9	6	~~5~~	~~2~~
−	5	5	5	1	1	3	4
	2	1	7	8	5	1	8

(d)

	T-L	L	T-th	Th	H	T	O
	(8)	(18)					
	~~9~~	~~8~~	9	8	9	8	9
−	8	9	7	2	3	1	4
	0	9	2	6	6	7	5

4. What number should be subtracted from :

(a)

	L	T-th	Th	H	T	O
	2	9	2	2	8	3
−		9	7	6	5	2
	1	9	4	6	3	1

(b)

	L	T-th	Th	H	T	O
	3	4	1	0	0	5
−	1	9	9	7	6	3
	1	4	1	2	4	2

(c)

	T-L	L	T-th	Th	H	T	O
	(4)	(12)				(2)	(11)
	~~5~~	~~2~~	9	7	6	~~3~~	1
−	3	4	9	6	3	0	2
	1	8	0	1	3	2	9

(d)

	T-L	L	T-th	Th	H	T	O
			(8)	(11)	(10)	(13)	
	6	7	~~9~~	~~2~~	~~1~~	3	9
−	5	3	4	2	1	7	6
	1	4	4	9	9	6	3

5. Find the missing digits in each of the following :

(a) 4 7 5 4 6
− 1 8 6 3 5
2 8 9 1 1

(b) 2 7 4 5 0
− 1 6 5 9 2
1 0 8 5 8

(c) 6 5 9 5 4
− 2 8 7 2 5
3 7 2 2 9

(d) 7 3 8 6 0 7
− 5 1 3 0 6 1
2 2 5 6 6 6

EXERCISE 2.3

1.
Male = 9 2 1 0 3
Female = + 1 0 7 6 3 1
Total = 1 9 9 7 3 4

(3)(10)(9)(11)(10)(10)
(9)(10)(1)(0)
So, children = ~~4~~ ~~1~~ ~~0~~ ~~2~~ ~~1~~ ~~0~~
− 1 9 9 7 3 4
2 1 0 4 7 6

2.
(1)(1) (1)(1)
I com. donated = ₹ 3 7 5 2 0 0
II com. donated = ₹ 9 6 7 6 0 9
III com. donated = + ₹ 2 2 0 0 9 2
₹ 1 5 6 2 9 0 1

3.
(1)
Cut off rope = 1 2 3 0 0
+ 1 4 7 6 0
2 7 0 6 0 m

(2)(15)(6)(10)
Remaining rope = ~~3~~ ~~5~~ ~~7~~ ~~0~~ 0
− 2 7 0 6 0
0 8 6 4 0 m

4.
(0)(17)(17)(5)(12)
(7)
Income = ~~1~~ ~~8~~ ~~7~~ ~~0~~ 2 5 0
Expenditure = − 9 8 4 3 0 0
Saving = ₹ 8 9 1 9 5 0

(8)(10) (6)(15)(13)
(5)
5.
Sum = ~~9~~ ~~0~~ 5 ~~7~~ ~~6~~ ~~3~~
One number = − 4 5 3 2 8 5
Other number = 4 5 2 4 7 8

(2)(1)(1)
6. Petrol sold in 3 days= 9 9 2 5 3 0 l
6 8 5 3 6 0 l
+ 4 5 3 2 0 0 l
21 3 1 0 9 0 l

(2)(11)
Petrol left = 2 8 7 5 ~~3~~ ~~1~~ 0 l
− 2 1 3 1 0 9 0 l
0 7 4 4 2 2 0 l

7. Total of two numbers (1)(1)(1)(1)
6 6 2 2 9 3
+ 3 4 9 7 1 2
10 1 2 0 0 5

(7)(10)
Third number = 2 6 5 4 9 ~~8~~ ~~0~~
− 1 0 1 2 0 0 5
1 6 4 2 9 7 5

8. Total expendure by Mr. Taneja
(1)
₹ 5 4 0 0 0 0
+ ₹ 7 6 4 3 0
₹ 6 1 6 4 3 0

(9)(9)
(5)(10)(10)(10)
Money left = ₹ 7 ~~6~~ ~~0~~ ~~0~~ ~~0~~ 0
− ₹ 6 1 6 4 3 0
₹ 1 4 3 5 7 0

4. Multiplication and Division

EXERCISE 4.1

1. See in answersheet.

EXERCISE 4.2

1. Fill in the blanks :

(a) $37 \times 10 = 37\boxed{0} = 370$

(b) $207 \times 100 = 207\boxed{00} = 20700$

(c) $615 \times 1000 = 615\boxed{000} = 615000$

(d) $3217 \times 10000 = 3217\boxed{0000}$
$= 32170000$

(e) $855 \times 10 = 855\boxed{0} = 8550$

(f) $989 \times 100 = 989\boxed{00} = 98900$

(g) $3718 \times 1000 = 3718\boxed{000} = 3718000$

(h) $15982 \times 10000 = 15982\boxed{0000}$
$= 159820000$

2. Find the product :

(a) $23 \times 40 = (23 \times 4) \times 10$
$= 92 \times 10 = 920$

(b) $68 \times 70 = (68 \times 7) \times 10$
$= 476 \times 10 = 4760$

(c) $105 \times 20 = (105 \times 2) \times 10$
$= 210 \times 10 = 2100$

(d) $321 \times 300 = (321 \times 3) \times 100$
$= 963 \times 100 = 96300$

(e) $576 \times 400 = (576 \times 4) \times 100$
$= 230400$

(f) $98 \times 5000 = (98 \times 5) \times 1000$
$= 490 \times 1000 = 490000$

(g) $112 \times 6000 = (112 \times 6) \times 1000$
$= 672000$

(h) $18 \times 70000 = (18 \times 7) \times 10000$
$= 1260000$

(i) $37 \times 6000 = (37 \times 6) \times 1000$
$= 222 \times 1000 = 222000$

3. Find the product using suitable rearrangement :

(a) $5 \times 36 \times 40 = 36 \times (5 \times 40)$
$= 36 \times 200 = 7200$

(b) $613 \times 8 \times 500 = 613 \times (8 \times 500)$
$= 613 \times 4000 = 2452000$

(c) $225 \times 47 \times 4 = 47 \times (225 \times 4)$
$= 47 \times 900 = 42300$

(d) $5 \times 37 \times 20 = 37 \times (5 \times 20)$
$= 37 \times 100 = 3700$

(e) $425 \times 16 \times 8 = 16 \times (8 \times 425)$
$= 16 \times 3400 = 54400$

(f) $26 \times 40 \times 50 = 26 \times (40 \times 50)$
$= 26 \times 2000 = 52000$

(g) $25 \times 376 \times 40 = 376 \times (25 \times 40)$
$= 376 \times 1000 = 376000$

(h) $8 \times 921 \times 125 = 921 \times (125 \times 8)$
$= 921 \times 1000 = 921000$

(i) $37 \times 500 \times 40 = 37 \times (500 \times 40)$
$= 37 \times 20000 = 740000$

EXERCISE 4.3

1. Find the product :

(a)

T-th	Th	H	T	O
		5	2	8
		×	1	7
	3	6	9	6
+	5	2	8	×
	8	9	7	6

(b)

T-th	Th	H	T	O
		9	2	1
		×	3	6
	5	5	2	6
+	2	7	6	3	×
	3	3	1	5	6

(c)

T-th	Th	H	T	O
		9	9	2
		×	2	4
	3	9	6	8
+	1	9	8	4	×
	2	3	8	0	8

(d)

T-th	Th	H	T	O
		8	3	1
		×	7	5
	4	1	5	5
+	5	8	1	7	×
	6	2	3	2	5

(e)

T-th	Th	H	T	O
		8	2	5
		×	1	5
	4	1	2	5
+	8	2	5	×
1	2	3	7	5

(f)

T-th	Th	H	T	O
		4	0	9
		×	2	1
		4	0	9
+	4	1	8	×
	4	5	8	9

(g)

	T-th	Th	H	T	O
			6	6	3
			×	3	4
		2	6	5	2
+	1	9	8	9	×
	2	2	5	4	2

(h)

	T-th	Th	H	T	O
			4	8	7
			×	3	9
		4	3	8	3
+	1	4	6	1	×
	1	8	9	9	3

2. Find the product :

(a)

	T-th	Th	H	T	O
			2	2	5
		×	1	9	6
		1	3	5	0
	2	0	2	5	×
+	2	2	5	×	×
	4	4	1	0	0

(b)

	T-th	Th	H	T	O
			3	2	8
		×	2	9	6
		1	9	6	8
	2	9	5	2	×
+	6	5	6	×	×
	9	7	0	8	8

(c)

	L	T-th	Th	H	T	O
			6	7	2	
		×	4	3	2	
		1	3	4	4	
	2	0	1	6	×	
+	2	6	8	8	×	×
	2	9	0	3	0	4

(d)

	L	T-th	Th	H	T	O
				9	0	6
			×	3	1	6
			5	4	3	6
			9	0	6	×
+	2	7	1	8	×	×
	2	8	6	2	9	6

(e)

	T-th	Th	H	T	O
			4	2	2
		×	1	9	3
		1	2	6	6
	3	7	9	8	×
+	4	2	2	×	×
	8	1	4	4	6

(f)

	L	T-th	Th	H	T	O
				9	3	6
			×	7	6	8
			7	4	8	8
		5	6	1	6	×
+	6	5	5	2	×	×
	7	1	9	8	4	8

(g)

	T-th	Th	H	T	O
			4	1	8
		×	2	0	4
		1	6	7	2
+	8	3	6	×	×
	8	4	2	7	2

(h)

	T-th	Th	H	T	O
			.3	2	2
		×	1	1	2
			6	4	4
		3	2	2	×
+	3	2	2	×	×
	3	6	0	6	4

3. Find the product :

(a)

	L	T-th	Th	H	T	O
			2	1	7	3
			×	3	1	4
			8	6	9	2
		2	1	7	3	×
+	6	5	1	9	×	×
	6	8	2	3	2	2

(b)

	L	T-th	Th	H	T	O
			4	5	7	4
			×	2	2	8
		3	6	5	9	2
		9	1	4	8	×
+	9	1	4	8	×	×
	10	4	2	8	7	2

(c)

	T-L	L	T-th	Th	H	T	O
				5	1	9	4
				×	3	2	7
			3	6	3	5	8
		1	0	3	8	8	×
+	1	5	5	8	2	×	×
	1	6	9	8	4	3	8

(d)

	T-L	L	T-th	Th	H	T	O
				6	0	0	2
				×	5	2	3
			1	8	0	0	6
		1	2	0	0	4	×
+	3	0	0	1	0	×	×
	3	1	3	9	0	4	6

(e)

	C	T-L	L	T-th	Th	H	T	O
					5	4	1	0	2
					×	5	2	3
				1	6	2	3	0	6
			1	0	8	2	0	4	×
+		2	7	0	5	1	0	×	×
		2	8	2	9	5	3	4	6

(f)

	C	T-L	L	T-th	Th	H	T	O
					1	1	0	9	6
					×	9	9	5	
				5	5	4	8	0	
			9	9	8	6	4	×	
+		9	9	8	6	4	×	×	
	1	1	0	4	0	4	2	0	

(g)

	C	T-L	L	T-th	Th	H	T	O
					7	2	3	6	1
					×	2	3	5	
				3	6	1	8	0	5
			2	1	7	0	8	3	×
+		1	4	4	7	2	2	×	×
		1	7	0	0	4	8	3	5

(h)

	C	T-L	L	T-th	Th	H	T	O
					6	1	2	5	9
					×	3	1	7	
				4	2	8	8	1	3
				6	1	2	5	9	×
+		1	8	3	7	7	7	×	×
		1	9	4	1	9	1	0	3

EXERCISE 4.4

1. Divide and find the quotient and remainder :

(a) 49872 ÷ 68

```
 68 | 49872 | 733
   -476
    227
   -204
     232
    -204
      28
```

(b) 12686 ÷ 51

```
 51 | 12686 | 248
   -102
     248
    -204
      446
     -408
       38
```

quotient = 733
remainder = 28

(c) 49903 ÷ 72

```
72 | 49903 | 693
   -432
   ----
     670
    -648
    ----
      223
     -216
     ----
        7
```

quotient = 693
remainder = 7

(e) 138549 ÷ 43

```
43 | 138549 | 3222
   -129
   ----
     95
    -86
    ---
      94
     -86
     ---
       89
      -86
      ---
        3
```

quotient = 3222
remainder = 3

quotient = 190449
remainder = 11

(g) 9637854 ÷ 38

```
38 | 9637854 | 253627
   -76
   ---
    203
   -190
   ----
     137
    -114
    ----
      238
     -228
     ----
       105
      -76
      ---
       294
      -266
      ----
        28
```

quotient = 253627
remainder = 28

quotient = 248
remainder = 38

(d) 86243 ÷ 89

```
89 | 86243 | 969
   -801
   ----
     614
    -534
    ----
      803
     -801
     ----
        2
```

quotient = 969
remainder = 2

(f) 3618542 ÷ 19

```
19 | 3618542 | 190449
   -19
   ---
    171
   -171
   ----
      085
      -76
      ---
        94
       -76
       ---
        182
       -171
       ----
         11
```

quotient = 190449
remainder = 11

(h) 6489542 ÷ 48

```
48 | 6489542 | 135198
   -48
   ---
    168
   -144
   ----
     249
    -240
    ----
       95
      -48
      ---
       474
      -432
      ----
        422
       -384
       ----
         38
```

quotient = 135198
remainder = 38

2. Divide and find the quotient and remainder :

(a) 6753385 ÷ 423

```
423 | 6753385 | 15965
    -423
    ----
     2523
    -2115
    -----
      4083
     -3807
     -----
       2768
      -2538
      -----
        2305
       -2115
       -----
         190
```

quotient = 15965
remainder = 190

(b) 9927604 ÷ 136

```
136 | 9927604 | 72997
    -952
    ----
     407
    -272
    ----
     1356
    -1224
    -----
      1320
     -1224
     -----
       964
      -952
      ----
        12
```

quotient = 72997
remainder = 12

(c) 5809721 ÷ 245

```
245 | 5809721 | 23713
    -490
    ----
     909
    -735
    ----
     1747
    -1715
    -----
      322
     -245
     ----
       771
      -735
      ----
        36
```

quotient = 23713
remainder = 36

(d) 3847381 ÷ 694

```
694 | 3847381 | 5543
    -3470
    -----
     3773
    -3470
    -----
     3038
    -2776
    -----
     2621
    -2082
    -----
      539
```

quotient = 5543
remainder = 539

(e) 5489761 ÷ 324

```
324 ) 5489761 ( 16943
    - 324↓
      2249
    - 1944↓
       3057
     - 2916↓
        1416
      - 1296↓
         1201
        - 972
          229
```

quotient = 16943
remainder = 229

(f) 4930025 ÷ 541

```
541 ) 4930025 ( 9112
    - 4869↓
       610
     - 541↓
        692
      - 541↓
         1515
        - 1082
           433
```

quotient = 9112
remainder = 433

(g) 72998441 ÷ 286

```
286 ) 7299841 ( 25523
    - 572↓
      1579
    - 1430↓
       1498
     - 1430↓
        684
      - 572↓
         1121
        - 858
          263
```

quotient = 25523
remainder = 263

(h) 1123547 ÷ 332

```
332 ) 1123547 ( 3390
    - 996↓
      1275
    - 996↓
       2994
     - 2988↓
          67
```

quotient = 3390
remainder = 67

EXERCISE 4.5

1. Cost of 1 scooter = ₹ 42630

Cost of 247 scooters = ₹ 42630 × 247
= ₹ **10529610**

2. Cost of 1 micro wave = ₹ 9475
Cost of 234 micro wave = ₹ 9475 × 234
= ₹ **2217150**

3. 1 year = 52 weeks
Bushes produced in 1 week = 992360
Bushes produced in 1 year = 992360 × 52
= **51602720**

4. Cost of 1 dining set = ₹ 83470
Cost of 256 dining sets = ₹ 83470 × 256
= ₹ **21368320**

5. Cost of 328 refrigerators = ₹ 2783080
Cost of 1 refrigerator = ₹ 2783080 ÷ 328
= ₹ **8485**

6. Cost of 325 systems = ₹ 8331050
Cost of 1 system = ₹ 8331050 ÷ 325
= ₹ **25634**

7. Product of two numbers = 937152
One number = 288
So, other number = 937452 ÷ 288
= **3254**

8. A big packet can hold books = 638
So, number of book packets required to pack 6113816 books = 6113316 ÷ 638
= **9582**

Multiple Choice Questions (MCQs)

1. (b); **2.** (c); **3.** (a); **4.** (b); **5.** (c); **6.** (a); **7.** (b); **8.** (c); **9.** (a); **10.** (b).

Comulative Revision – I

1. Write the number name of the following number in the International System :
(a) Five million six hundred seventy two thousand eight hundred fifty nine .
(b) Six million five hundred twenty thousand five hundred twenty nine.
(c) One million nine hundred sixteen thousand two hundred eighty four.
(d) Thirty seven million twenty hundred thousand eight hundred fifty three.
2. Estimate each of the following sum to the nearest thousand :
(a) 13728 is written as 14000.

67942 is written as 68000.
So, 14000 + 68000 = 82000

(b) 85432 is written as 85000.
57963 is written as 58000.
So, 85000 – 58000 = 143000.

3. (a) 57678 is written as 57700.
37914 is written as 37900.
So, 57700 – 37900 = 19800

(b) 428169 is written as 428200.
24576 is written as 24600.
So, 428200 – 24600 = 403600

4. (a) 597684, 637428, 762859, 10769285

(b) 1089672, 846397, 405632, 374056

5. (a)

	L	T-Th	Th	H	T	O
	①	①	①	①	①	
	2	7	9	6	8	5
+	3	4	8	5	7	6
	6	2	8	2	6	1

(b)

	L	T-Th	Th	H	T	O
		⑥	⑫	⑦	⑩	
	6	7	2	8	0	9
–	3	5	7	6	4	9
	3	1	5	1	6	0

5. Multiples and Factors

EXERCISE 5.1

1. See in answersheet.

2. Write first five multiples of the following :

(a) $3 \times 1 = 3$, $3 \times 2 = 6$, $3 \times 3 = 9$, $3 \times 4 = 12$, $3 \times 5 = 15$

(b) $7 \times 1 = 7$, $7 \times 2 = 14$, $7 \times 3 = 21$, $7 \times 4 = 28$, $7 \times 5 = 35$

(c) $8 \times 1 = 8$, $8 \times 2 = 16$, $8 \times 3 = 24$, $8 \times 4 = 32$, $8 \times 5 = 40$

(d) $11 \times 1 = 11$, $11 \times 2 = 22$, $11 \times 3 = 33$, $11 \times 4 = 44$, $11 \times 5 = 55$

(e) $15 \times 1 = 15$, $15 \times 2 = 30$, $15 \times 3 = 45$, $15 \times 4 = 60$, $15 \times 5 = 75$

(f) $18 \times 1 = 18$, $18 \times 2 = 36$, $18 \times 3 = 54$, $18 \times 4 = 72$, $18 \times 5 = 90$

(g) $20 \times 1 = 20$, $20 \times 2 = 40$, $20 \times 3 = 60$, $20 \times 4 = 80$, $20 \times 5 = 100$

(h) $21 \times 1 = 21$, $21 \times 2 = 42$, $21 \times 3 = 63$, $21 \times 4 = 84$, $21 \times 5 = 105$

3, 4, 5, 6 and **7** see in answersheet.

8. Show that following numbers are co-prime :

(a) Factors of 6 = 1, 2, 3, 6
Factors of 11 = 1, 11
There is no common factor other than 1. So, they are co-prime.

(b) Factors of 10 = 1, 2, 5, 10
Factors of 17 = 1, 17
There is no common factor other than 1. So, they are co-prime.

(c) Factors of 19 = 1, 19
Factors of 23 = 1, 23
There is no common factor other than 1. They are co-prime.

(d) Factors of 18 = 1, 2, 3, 6, 9, 18
Factors of 23 = 1, 23
There is no common factor other than 1. So, they are co-prime

(e) Factors of 12 = 1, 2, 3, 4, 6, 12
Factors of 19 = 1, 19
There is no common factor other than 1. So, 12 and 15 are co-prime.

(f) Factors of 80 = 1, 2, 4, 5, 8, 10, 16, 20, 40, 80
Factors of 89 = 1, 89
There is no common factor other than 1. So, 80 and 89 are co-prime.

(g) Factors of 71 = 1, 71
Factors of 76 = 1, 2, 4, 19, 38, 76
There is no common factor other than 1. So, 71 and 76 are co-prime.

(h) Factors of 93 = 1, 3, 19, 93
Factors of 97 = 1, 97
There is no common factor other than 1. So, 93 and 97 are co-prime.

EXERCISE 5.2

1, 2, 3, 4, 5, 6, 7 and **8** see in answersheet.

6. HCF and LCM

EXERCISE 6.1

1. Find HCF of the following by common factor method :

(a) Factors of 12 = 1, 2, 3, 4, 6, 12
Factors of 24 = 1, 2, 3, 4, 6, 8, 12, 24
Common factors of 12 and 24 are 1, 2, 3, 4, 6, 12.
12 is the highest common factor (HCF).

(b) Factors of 16 = 1, 2, 4, 8, 16
Factors of 36 = 1, 2, 3, 4, 6, 9, 12, 18, 36
Common factors are 1, 2, 4.
4 is the highest common factor (HCF).

(c) Factors of 25 = 1, 5, 25
Factors of 55 = 1, 5, 11, 55
Common factors are 1, 5.
5 is the highest common factor (HCF).

(d) Factors of 14 = 1, 2, 7, 14
Factors of 49 = 1, 7, 49
Common factors are 1, 7.
7 is the highest common factor (HCF).

(e) Factors of 24 = 1, 2, 3, 4, 6, 8, 12, 24
Factors of 196 = 1, 2, 4, 7, 14, 28, 49, 98, 196
Common factors are 1, 2, 4.
4 is the highest common factors (HCF).

(f) Factors of 33 = 1, 3, 11, 33
Factors of 1331 = 1, 11, 121, 1331
Common factors are 1, 11.
11 is the highest common factors (HCF).

(g) Factors of 12 = 1, 2, 3, 4, 6, 12
Factors of 32 = 1, 2, 4, 8, 16, 32
Factors of 36 = 1, 2, 3, 4, 6, 9, 12, 18, 36
Common factors are 1, 2, 4.
4 is the highest common factor (HCF).

(h) Factors of 25 = 1, 5, 25
Factors of 45 = 1, 3, 5, 9, 15, 45
Factors of 60 = 1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30, 60
Common factors are 1, 5.
5 is the highest common factor (HCF).

(i) Factors of 18 = 1, 2, 3, 6, 9, 18
Factors of 30 = 1, 2, 3, 5, 6, 10, 15, 30
Factors of 60 = 1, 2, 3, 4, 5, 6, 10, 12, 15, 30, 60
Common factors are 1, 2, 3, 5, 6
6 is the highest common factor (HCF).

2. Find HCF of the following by prime-factorization method :

(a) 24, 64

2	24
2	12
2	6
	3

2	64
2	32
2	16
2	8
2	4
	2

$24 = 2 \times 2 \times 2 \times 3$
$64 = 2 \times 2 \times 2 \times 2 \times 2 \times 2$
HCF of 24 and 64 = $2 \times 2 \times 2 = 8$

(b) 35, 105

5	35
	7

5	105
3	21
	7

$35 = 5 \times 7$
$105 = 5 \times 7 \times 3$
HCF of 35 and 105 = $5 \times 7 = 35$

(c) 70, 98

2	70
5	35
	7

2	98
7	49
	7

$70 = 2 \times 7 \times 5$
$98 = 2 \times 7 \times 7$
HCF of 70 and 98 = $2 \times 7 = 14$

(d) 18, 36, 72

2	18
3	9
	3

2	36
2	18
3	9
	3

2	72
2	36
2	18
3	9
	3

$18 = 2 \times 3 \times 3$
$36 = 2 \times 3 \times 2 \times 3$
$72 = 2 \times 2 \times 2 \times 3 \times 3$
HCF of 18, 36 and 72 = $2 \times 3 \times 3 = 18$

(e) 55, 85, 115

5	55
	11

5	85
	17

5	115
	23

$55 = 5 \times 11$
$85 = 5 \times 17$

$115 = 5 \times 23$

HCF of 55, 85 and 115 = **5**

(f) 14, 20, 48

2	14
	7

2	20
2	10
	5

2	48
2	24
2	12
2	6
	3

$14 = 2 \times 7$

$20 = 2 \times 2 \times 5$

$48 = 2 \times 2 \times 2 \times 2 \times 3$

HCF of 14, 20 and 48 = **2**

(g) 15, 25, 50

3	15
	5

5	25
	5

2	50
5	25
	5

$15 = 3 \times 5$

$25 = 1 \times 5 \times 5$

$50 = 1 \times 5 \times 5 \times 2$

HCF of 15, 25 and 50 = **5**

(h) 16, 24, 36

2	16
2	8
2	4
	2

2	24
2	12
2	6
	3

2	36
2	18
3	9
	3

$16 = 2 \times 2 \times 2 \times 2$

$24 = 2 \times 2 \times 2 \times 1 \times 3$

$36 = 2 \times 2 \times 1 \times 1 \times 3 \times 3$

HCF of 16, 24 and 36 = $2 \times 2 = 4$

(i) 9, 27, 81

3	9
	3

3	27
3	9
	3

3	81
3	27
3	9
	3

$9 = 3 \times 3$

$27 = 3 \times 3 \times 3$

$81 = 3 \times 3 \times 3 \times 3$

HCF of 9, 27 and 81 = $3 \times 3 = 9$

3. Find HCF of the following by long division method :

(a) 12, 45

$12\overline{)45}(3$
-36
$9\overline{)12}(1$
-9
$3\overline{)9}(3$
-9
0

(b) 60, 90

$60\overline{)90}(1$
-60
$30\overline{)60}(2$
-60
0

HCF = 60 and 90 is **30.**

HCF = 12 and 45 is **3.**

(c) 25, 65

$25\overline{)65}(2$
-50
$15\overline{)25}(1$
-15
$10\overline{)15}(1$
-10
$5\overline{)10}(2$
-10
0

HCF = 25 and 65 is **5.**

(d) 20, 30, 90

$20\overline{)30}(1$
-20
$10\overline{)20}(2$
-20
0

Now divide 90 by 10

$10\overline{)90}(9$
-90
0

HCF = 20, 30 and 90 is **10.**

(e) 15, 35, 70

First divide 35 by 15.

$15\overline{)35}(2$
-30
$5\overline{)15}(3$
-15
0

Now divide 70 by 5.

$5\overline{)70}(14$
-5
20
-20
0

Hence, HCF is **5.**

(f) 10, 92, 108

First divide 108 by 92.

$92\overline{)108}(1$
-92
$16\overline{)92}(5$
-80
$12\overline{)16}(1$
-12
$4\overline{)12}(3$
-12
0

Now divide 10 by 4.

$4\overline{)10}(2$
-8
$2\overline{)4}(2$
-4
0

So, HCF of 92, 108 and 10 is **2.**

(g) 84, 120, 138

First divide 138 by 120.

$120\overline{)138}(1$
-120
$18\overline{)120}(6$
-108
$12\overline{)18}(1$
-12
$6\overline{)12}(2$
-12
0

Now divide 84 by 6.

$6\overline{)84}(14$
-6
24
-24
0

So, HCF of 84, 120 and 138 is **6.**

(h) 106, 159, 265 .

First divide 265 by 159.

$$159\overline{)265}(1$$
$$-159$$
$$\overline{106}\overline{)159}(1$$

Now divide 106 by 53.

$$-106$$
$$\overline{53}\overline{)106}(2$$
$$-106$$
$$\overline{0}$$

$$53\overline{)106}(2$$
$$-106$$
$$\overline{0}$$

So, HCF of 106, 159 and 265 is **53**.

(i) 49, 91, 140

First divide 140 by 91.

$$91\overline{)140}(1$$
$$-91$$
$$\overline{49}\overline{)91}(1$$

Now divide 49 by 7.

$$-49$$
$$\overline{42}\overline{)49}(1$$
$$-42$$
$$\overline{7}\overline{)42}(6$$
$$-42$$
$$\overline{0}$$

$$7\overline{)49}(7$$
$$-49$$
$$\overline{0}$$

So, HCF of 49, 91 and 140 is **7**.

EXERCISE 6.2

1. Find LCM of the following by multiples method :

(a) Multiples of 3 are 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, ...
Multiples of 9 are 9, 18, 27, 36, 45, 54, ...
Common multiples of 3 and 9 are 9, 18, 27, ...
Hence, LCM of 3 and 9 is **9**.

(b) Multiples of 9 are 9, 18, 27, 36, 45, 54, 63, 72, 81, 90, ...
Multiples of 12 are 12, 24, 36, 48, 60, 72, 84, 96, ...
Common multiples of 9 and 12 are 36, 72, ...
So, LCM of 9 and 12 is **36**.

(c) Multiples of 6 are 6, 12, 18, 24, 30, 36, 42, 48, ...
Multiples of 8 are 8, 16, 24, 32, 40, 48, 56, 64, ...
Common multiples of 6 and 8 are 24, 48, ...
LCM of 6 and 8 is **24**.

(d) Multiples of 8 are 8, 16, 24, 32, 40, 48, 56, 64, 72, 80, ...
Multiples of 12 are 12, 24, 36, 48, 60, 72, 84, 96, 108, 120, ...
Multiples of 18 are 18, 36, 54, 72, 90, 108, 126, 144, ...
Common multiple is 72, ...
LCM is **72**.

(e) Multiples of 6 are 6, 12, 18, 24, 30, 36, 42, 48, 54, ...
Multiples of 8 are 8, 16, 24, 32, 40, 48, 56, 64, 72, ...
Multiples of 48 are 48, 96, 144, 192, 240, 288, ...
Common multiple is 48, ...
Hence, LCM is **48**.

(f) Multiples of 10 are 10, 20, 30, 40, 50, 60, 70, 80, ..., 320, 330, 340, ...
Multiples of 30 are 30, 60, 90, 120, 150, 180, ... 300, 330, 360
Multiples of 55 are 55, 110, 220, 330, 440, ...
Common multiples of 10, 30 and 55 is 330, ...
Hence, LCM is **330**.

(g) Multiples of 4 are 4, 8, 12, 16, 20, 24, 32, 40, 48, 56, 60, 64, 68, 72, ...
Multiples of 8 are 8, 16, 24, 32, 40, 48, 56, 64, 72, 80, ...
Multiples of 12 are 12, 24, 36, 48, 60, 72, 96
Common multiples of 4, 8 and 12 are 24, 72, ...
Hence, LCM is **24**.

(h) Multiples of 5 are 5, 10, 15, ..., 100, 105, 110, 115, 120, ...
Multiples of 15 are 15, 30, 45, 60, 75, 90, 105, 120, ...
Multiples of 35 are 35, 70, 105, 140....

Common multiples of 5, 15 and 35 is 105, ...

Hence, LCM is **105**.

(i) Multiples of 6 are 6, 12, 18, 24, 30, 36, 42, 48, ..., 90, 96, 102

Multiples of 16 are 16, 32, 48, 64, 80, 96, 112, ...

Multiples of 24 are 24, 48, 72, 96, 120, ...

Common multiples of 6, 16 and 24 are 48, 96, ...

Hence, LCM is **48**.

2. Find LCM of the following by Prime-Factorization method :

(a)

5	35
	7

5	25
	5

$35 = 5 \times 7$ $25 = 5 \times 5$

Hence, LCM $= 5 \times 5 \times 7 = 175$

(b)

2	12
2	6
	3

2	26
	13

$12 = 2 \times 2 \times 3$ $26 = 2 \times 13$

Hence, LCM $= 2 \times 2 \times 3 \times 13 = 156$

(c)

5	25
	5

5	65
	13

$25 = 5 \times 5$

$65 = 5 \times 13$

Hence, LCM $= 5 \times 5 \times 13 = 325$

(d)

5	25
	5

2	30
3	15
	5

2	70
5	35
	7

$25 = 5 \times 5$

$30 = 2 \times 3 \times 5$

$70 = 2 \times 5 \times 7$

LCM $= 5 \times 5 \times 2 \times 3 \times 7 = 1050$

(e)

2	16
2	8
2	4
	2

2	18
3	9
	3

2	36
2	18
3	9
	3

$16 = 2 \times 2 \times 2 \times 2$ $18 = 2 \times 3 \times 3$

$36 = 2 \times 2 \times 3 \times 3$

LCM $= 2 \times 2 \times 3 \times 3 \times 2 \times 2 = 144$

(f)

5	35
	7

2	70
5	35
	7

5	105
3	21
	7

$35 = 5 \times 7$

$70 = 2 \times 5 \times 7$

$105 = 5 \times 3 \times 7$

LCM $= 5 \times 7 \times 2 \times 3 = 210$

(g)

3	21
	7

5	35
	7

5	95
	19

$21 = 3 \times 7$

$35 = 1 \times 7 \times 5$

$95 = 1 \times 1 \times 5 \times 19$

LCM $= 3 \times 7 \times 5 \times 19 = 3325$

(h)

2	50
5	25
	5

3	75
5	25
	5

2	100
2	50
5	25
	5

$50 = 2 \times 5 \times 5$

$75 = 1 \times 5 \times 5 \times 3$

$100 = 2 \times 5 \times 5 \times 1 \times 2$

LCM $= 2 \times 5 \times 5 \times 3 \times 2 = 300$

(i)

3	21
	7

2	72
2	36
2	18
3	9
	3

2	90
3	45
3	15
	5

$21 = 3 \times 7$

$72 = 3 \times 1 \times 2 \times 2 \times 2$

$90 = 3 \times 1 \times 2 \times 1 \times 1 \times 3$

LCM $= 3 \times 7 \times 3 \times 2 \times 2 \times 2 \times 3 = 1512$

3. Find LCM of the following by common division method :

(a)

2	35, 105, 140, 180
2	35, 105, 70, 90
5	35, 105, 35, 45
7	7, 21, 7, 9
3	1, 3, 1, 9
3	1, 1, 1, 3
	1, 1, 1, 1

LCM $= 2 \times 2 \times 5 \times 7 \times 3 \times 3 = 1260$

(b)

2	90, 120, 150, 160
2	45, 60, 75, 80
2	45, 30, 75, 40
2	45, 15, 75, 20
5	45, 15, 75, 10
3	9, 3, 15, 2
3	3, 1, 5, 2
5	1, 1, 5, 2
2	1, 1, 1, 2
	1, 1, 1, 1

LCM = 2 × 2 × 2 × 2 × 5 × 3 × 3 × 5 × 2

= **7200**

(c)

2	11, 27, 54, 135
3	11, 27, 27, 135
3	11, 9, 9, 45
3	11, 3, 3, 15
5	11, 1, 1, 5
11	11, 1, 1, 1
	1, 1, 1, 1

LCM = 2 × 3 × 3 × 3 × 5 × 11

= **2970**

(d)

2	68, 119, 120, 240
2	34, 119, 60, 120
2	17, 119, 30, 60
2	17, 119, 15, 30
5	17, 119, 15, 15
3	17, 119, 3, 3
7	17, 119, 1, 1
17	1, 17, 1, 1
	1, 1, 1, 1

LCM = 2 × 2 × 2 × 2 × 5 × 3 × 7 × 17

= **28560**

(e)

2	54, 76, 108, 114
2	27, 38, 54, 57
3	27, 19, 27, 57
3	9, 19, 9, 19
3	3, 19, 3, 19
19	1, 19, 1, 19
	1, 1, 1, 1

LCM = 2 × 2 × 3 × 3 × 3 × 19 = **2052**

(f)

2	36, 54, 84, 90
2	18, 27, 42, 45
3	9, 27, 21, 45
3	3, 9, 7, 15
3	1, 3, 7, 5
5	1, 1, 7, 5
7	1, 1, 7, 1
	1, 1, 1, 1

LCM = 2 × 2 × 3 × 3 × 3 × 5 × 7

= **37800**

(g)

2	180, 210, 240, 280
2	90, 105, 120, 140
2	45, 105, 60, 70
2	45, 105, 30, 35
3	45, 105, 15, 35
3	15, 35. 5, 35
5	5, 35, 5, 35
7	1, 7, 1, 7
	1, 1, 1, 1

LCM = 2 × 2 × 2 × 2 × 3 × 3 × 5 × 7

= **5040**

(h)

2	225, 300, 375, 400
2	225, 150, 375, 200
2	225, 75, 375, 100
2	225, 75, 375, 50
3	225, 75, 375, 25
3	75, 25, 125, 25
5	25, 25, 125, 25
5	5, 5, 25, 5
5	1, 1, 5, 1
	1, 1, 1, 1

LCM = 2 × 2 × 2 × 2 × 3 × 3 × 5 × 5 × 5

= **18000**

(i)

2	350, 300, 400, 600
2	175, 150, 200, 300
2	175, 75, 100, 150
2	175, 75, 50, 75
3	175, 75, 25, 75
5	175, 25, 25, 25
5	35, 5, 5, 5
7	7, 1, 1, 1
	1, 1, 1, 1

$$LCM = 2 \times 2 \times 2 \times 2 \times 3 \times 5 \times 5 \times 7$$
$$= 8400$$

EXERCISE 6.3

1. $HCF = \frac{\text{Product of two numbers}}{\text{LCM of two numbers}}$

$$HCF = \frac{2560}{320} = 8$$

2. $HCF = \frac{\text{Product of two numbers}}{\text{LCM of two numbers}}$

$$HCF = \frac{1566 \times 2030}{54810} = 58$$

3. $\text{Other number} = \frac{HCF \times LCM}{\text{One number}}$

$$= \frac{77 \times 9702}{1078} = \frac{747054}{1078} = 693$$

4. $\text{Other number} = \frac{HCF \times LCM}{\text{One number}}$

$$= \frac{8 \times 96}{32} = \frac{96}{4} = 24$$

5. $LCM = \frac{\text{Product of two numbers}}{HCF}$

$$= \frac{917504}{128} = 7168$$

6. First, find LCM of 144 and 216

2	144, 216
2	72, 108
2	36, 54
2	18, 27
3	9, 27
3	1, 9
3	1, 3
	1, 1

$$LCM = 2 \times 2 \times 2 \times 2 \times 3 \times 3 \times 3 = 432$$

$$HCF = \frac{\text{One number} \times \text{other number}}{LCM}$$

$$= \frac{144 \times 216}{432} = 72$$

7. First, LCM of 68, 153

2	68, 153
3	34, 153
17	34, 51
2	2, 3
3	1, 3
	1, 1

$$LCM = 2 \times 3 \times 17 \times 2 \times 3 = 612$$

$$\text{Now, } HCF = \frac{\text{One number} \times \text{other number}}{LCM}$$

$$= \frac{68 \times 153}{612} = 17$$

8.
$$\begin{array}{r} 272\overline{)425}(1 \\ -272 \\ \hline 153\overline{)272}(1 \\ -153 \\ \hline 119\overline{)153}(1 \\ -119 \\ \hline 34\overline{)119}(3 \\ -102 \\ \hline 17\overline{)34}(2 \\ -34 \\ \hline 0 \end{array}$$

$HCF = 17$

$$\text{Now, } LCM = \frac{\text{Product of two numbers}}{\text{LCM of two numbers}}$$

$$= \frac{272 \times 425}{17} = 6800$$

EXERCISE 6.4

1. HCF of 15, 21, 27 divides these exactly.
First we divided 21 by 15

$$\begin{array}{r} 15\overline{)21}(1 \\ -15 \\ \hline 6\overline{)15}(2 \\ -12 \\ \hline 3\overline{)6}(2 \\ -6 \\ \hline 0 \end{array}$$

Now, divide 27 by 3

$$\begin{array}{r} 3\overline{)27}(9 \\ -27 \\ \hline 0 \end{array}$$

Hence, required number is **3**.

2. Required number is HCF of (700 – 7) and (1082 – 4) i.e. HCF of 693, 1078.

$$\begin{array}{r} 693\overline{)1078}(1 \\ -693 \\ \hline 385\overline{)693}(1 \\ -385 \\ \hline 308\overline{)385}(1 \\ -308 \\ \hline 77\overline{)308}(4 \\ -308 \\ \hline 0 \end{array}$$

Hence, required number is **77**.

3. Required number is HCF of (126 – 1), (153 – 3) and (305 – 5) i.e. HCF of 125,

150, 300.

$$\begin{array}{r|l} 125 & 300 \,(2 \\ -250 & \\ \hline 50 & 125 \,(2 \\ -100 & \\ \hline 25 & 50 \,(2 \\ -50 & \\ \hline 0 & \end{array}$$

Hence, required number is **25.**

4. Measure the largest container is HCF of 175 and 225.

$$\begin{array}{r|l} 175 & 225 \,(1 \\ -175 & \\ \hline 50 & 175 \,(3 \\ -150 & \\ \hline 25 & 50 \,(2 \\ -50 & \\ \hline 0 & \end{array}$$

Hence, measure of required container is **25 l.**

5. Measure the largest rope is HCF of 325 and 170.

$$\begin{array}{r|l} 170 & 325 \,(1 \\ -170 & \\ \hline 155 & 170 \,(1 \\ -155 & \\ \hline 15 & 155 \,(9 \\ -145 & \\ \hline 10 & 15 \,(1 \\ -10 & \\ \hline 5 & 10 \,(2 \\ -10 & \\ \hline 0 & \end{array}$$

Hence, measure of required rope is **5 m.**

6.

2	48, 57, 75
2	24, 57, 75
2	12, 57, 75
2	6, 57, 75
3	3, 57, 75
19	1, 19, 25
5	1, 1, 25
5	1, 1, 5
	1, 1, 1

Required number is LCM of (54 – 6), (63 – 6) and (81 – 6) i.e. LCM 48, 57, 75

LCM = 2 × 2 × 2 × 2 × 3 × 19 × 5 × 5

Hence, required number is **22800.**

7. LCM of 36, 48, 54, 60

2	36, 48, 54, 60
2	18, 24, 27, 30
2	9, 12, 27, 15
2	9, 6, 27, 15
3	9, 3, 27, 15
3	3, 1, 9, 5
3	1, 1, 3, 5
5	1, 1, 1, 5
	1, 1, 1, 1

LCM = 2 × 2 × 2 × 2 × 3 × 3 × 3 × 5

= 2160

The greatest number of five digit

= 99999

$$\begin{array}{r|l} 2160 & 99999 \,(46 \\ -8640 \downarrow & \\ \hline 13599 & \\ -12960 & \\ \hline 639 & \end{array}$$

Hence, required number is

99999 – 639 = **99360**

8. Required distance is the LCM of 48, 60, 108.

2	48, 60, 108
2	24, 30, 54
2	12, 15, 27
2	6, 15, 27
3	3, 15, 27
3	1, 5, 9
3	1, 5, 3
5	1, 5, 1
	1, 1, 1

LCM = 2 × 2 × 2 × 2 × 3 × 3 × 3 × 5

= 2160

Hence, **21.60** cm distance they step together.

9. LCM of 9, 20, 36

2	9, 20, 36
2	9, 10, 18
3	9, 5, 9
3	3, 5, 3
5	1, 5, 1
	1, 1, 1

LCM = 2 × 2 × 3 × 3 × 5 = 180 minutes

They ring together at 8.56 am

= 8 : 56 + 180 minutes (3 hours)

So, 8 hours 56 minutes + 3 hours

= 11 hours 56 minutes

Hence, 11 hours 56 minutes ring together.

10. LCM of 5, 9, 16

2	5, 9, 16
2	5, 9, 8
2	5, 9, 4
2	5, 9, 2
5	5, 9, 1
3	1, 9, 1
3	1, 3, 1
	1, 1, 1

LCM = 2 × 2 × 2 × 2 × 5 × 3 × 3 = 720

Hence, 720 bottles which can be arranged in this manner.

7. Fractions

EXERCISE 7.1

1. Reduce each of the following fractions its lowest term :

(a) $\frac{99}{132} = \frac{99 \div 33}{132 \div 33} = \frac{3}{4}$ (HCF is 33.)

(b) $\frac{15}{18} = \frac{15 \div 3}{18 \div 3} = \frac{5}{6}$ (HCF is 3.)

(c) $\frac{42}{72} = \frac{42 \div 6}{72 \div 6} = \frac{7}{12}$ (HCF is 6.)

(d) $\frac{14}{88} = \frac{14 \div 2}{88 \div 2} = \frac{7}{44}$ (HCF is 2.)

(e) $\frac{52}{91} = \frac{52 \div 13}{91 \div 13} = \frac{4}{7}$ (HCF is 13.)

(f) $\frac{75}{150} = \frac{75 \div 75}{150 \div 75} = \frac{1}{2}$ (HCF is 75.)

(g) $\frac{44}{77} = \frac{44 \div 11}{77 \div 11} = \frac{4}{7}$ (HCF is 11.)

(h) $\frac{117}{169} = \frac{117 \div 13}{169 \div 13} = \frac{9}{13}$ (HCF is 13.)

2. Convert the following improper fractions to mixed fractions :

(a) $\frac{11}{2} = 5\frac{1}{2}$

$2\overline{)11}(5$
-10
1

(b) $\frac{71}{12} = 5\frac{11}{12}$

$12\overline{)71}(5$
-60
11

(c) $\frac{23}{5} = 4\frac{3}{5}$

$5\overline{)23}(4$
-20
3

(d) $\frac{47}{6} = 7\frac{5}{6}$

$6\overline{)47}(7$
-42
5

(e) $\frac{63}{14} = 4\frac{7}{14} = 4\frac{1}{2}$

$14\overline{)63}(4$
-56
7

(f) $\frac{75}{11} = 6\frac{9}{11}$

$11\overline{)75}(6$
-66
9

(g) $\frac{92}{24} = 3\frac{20}{24} = 3\frac{5}{6}$

$24\overline{)92}(3$
-72
20

(h) $\frac{351}{70} = 5\frac{1}{70}$

$70\overline{)351}(5$
-350
1

3. Convert the following mixed numbers into improper fractions :

(a) $5\frac{7}{8} = \frac{(5 \times 8) + 7}{8} = \frac{40 + 7}{8} = \frac{47}{8}$

(b) $7\frac{1}{4} = \frac{(7 \times 4) + 1}{4} = \frac{28 + 1}{4} = \frac{29}{4}$

(c) $3\frac{2}{9} = \frac{(3 \times 9) + 2}{9} = \frac{27 + 2}{9} = \frac{29}{9}$

(d) $2\frac{1}{11} = \frac{(2 \times 11) + 1}{11} = \frac{22 + 1}{11} = \frac{23}{11}$

(e) $6\frac{9}{10} = \frac{(6 \times 10) + 9}{10} = \frac{60 + 9}{10} = \frac{69}{10}$

(f) $1\frac{9}{13} = \frac{(1 \times 13) + 9}{13} = \frac{13 + 9}{13} = \frac{22}{13}$

(g) $7\frac{5}{6} = \frac{(7 \times 6) + 5}{6} = \frac{42 + 5}{6} = \frac{47}{6}$

(h) $6\frac{5}{7} = \frac{(7 \times 6) + 5}{7} = \frac{42 + 5}{7} = \frac{47}{7}$

EXERCISE 7.2

1. Which is greater in following pairs?

(a) $\frac{6}{19}$ or $\frac{12}{19}$

$\frac{12}{19}$ is greater. Since $12 > 6$.

(b) $\frac{17}{25}$ or $\frac{23}{25}$

$\frac{23}{25}$ is greater. Since $23 > 17$.

(c) $\frac{16}{21}$ or $\frac{5}{14}$

$\frac{(16 \times 2) \text{ or } (5 \times 3)}{42} = \frac{32}{42}$ or $\frac{15}{42}$

$\frac{16}{21}$ is greater. Since $32 > 15$.

(d) $\frac{9}{17}$ or $\frac{3}{8}$

$\frac{(9 \times 8) \text{ or } (3 \times 17)}{136} = \frac{72}{136}$ or $\frac{51}{136}$

$\frac{9}{17}$ is greater. Since $72 > 51$.

(e) $2\frac{3}{6}$ or $4\frac{7}{11}$

$\frac{15}{6}$ or $\frac{51}{11}$

$\frac{(15 \times 11) \text{ or } (51 \times 6)}{66} = \frac{165}{66}$ or $\frac{306}{66}$

$4\frac{7}{11}$ is greater. Since $306 > 165$.

(f) $2\frac{1}{3}$ or $4\frac{3}{5}$

$\frac{7}{3}$ or $\frac{23}{5}$

$\frac{(7 \times 5) \text{ or } (23 \times 3)}{15} = \frac{35}{15}$ or $\frac{69}{15}$

$4\frac{3}{5}$ is greater. Since $69 > 35$.

2. Which is smaller in following pairs?

(a) $\frac{12}{23}$ or $\frac{15}{23}$

$\frac{12}{23}$ is smaller. Since $12 < 15$.

(b) $\frac{9}{11}$ or $\frac{12}{25}$

$\frac{(9 \times 25) \text{ or } (12 \times 11)}{275} = \frac{225}{275}$ or $\frac{121}{275}$

$\frac{12}{25}$ is smaller. Since $121 < 225$.

(c) $\frac{11}{16}$ or $\frac{17}{22}$

$\frac{(11 \times 11) \text{ or } (17 \times 8)}{176} = \frac{121}{176}$ or $\frac{136}{176}$

$\frac{11}{16}$ is smaller. Since $121 < 136$.

(d) $2\frac{2}{5}$ or $3\frac{1}{7}$

$2\frac{2}{5}$ is smaller. Since $2 < 3$.

(e) $9\frac{6}{11}$ or $2\frac{1}{5}$

$2\frac{1}{5}$ is smaller. Since $2 < 9$.

(f) $4\frac{2}{7}$ or $2\frac{3}{13}$

$2\frac{3}{13}$ is smaller. Since $2 < 4$.

3. Arrange the following fractions in ascending order :

(a) $\frac{1}{3}, \frac{2}{11}, \frac{7}{8}, \frac{5}{12}$

$= \frac{(1 \times 88), (2 \times 24), (7 \times 33), (5 \times 22)}{264}$

$= \frac{88}{264}, \frac{48}{264}, \frac{231}{264}, \frac{110}{264}$

$= \frac{48}{264} < \frac{88}{264} < \frac{110}{264} < \frac{231}{264}$

So, $\frac{2}{11} < \frac{1}{3} < \frac{5}{12} < \frac{7}{8}$

(b) $\frac{1}{3}, \frac{1}{9}, \frac{8}{15}, \frac{3}{11}$

$= \frac{(1\times165), (1\times55), (8\times33), (3\times45)}{495}$

$= \frac{165}{495}, \frac{55}{495}, \frac{264}{495}, \frac{135}{495}$

$= \frac{55}{495} < \frac{135}{495} < \frac{165}{495} < \frac{264}{495}$

So, $\frac{1}{9} < \frac{3}{11} < \frac{1}{3} < \frac{8}{15}$

(c) $\frac{7}{10}, \frac{3}{4}, \frac{5}{15}, \frac{10}{12}$

$= \frac{(7\times6), (3\times15), (5\times4), (10\times5)}{60}$

$= \frac{42}{60}, \frac{45}{60}, \frac{20}{60}, \frac{50}{60}$

$= \frac{20}{60} < \frac{42}{60} < \frac{45}{60} < \frac{50}{60}$

So, $\frac{5}{15} < \frac{7}{10} < \frac{3}{4} < \frac{10}{12}$

(d) $\frac{7}{11}, \frac{1}{3}, \frac{5}{6}, \frac{14}{16}$

$= \frac{(7\times48), (1\times176), (5\times88), (14\times33)}{528}$

$= \frac{336}{528}, \frac{176}{528}, \frac{440}{528}, \frac{462}{528}$

$= \frac{176}{528} < \frac{336}{528} < \frac{440}{528} < \frac{462}{528}$

So, $\frac{1}{3} < \frac{7}{11} < \frac{5}{6} < \frac{14}{16}$

(e) $\frac{1}{5}, \frac{5}{12}, \frac{8}{15}, \frac{3}{8}$

$= \frac{(1\times24), (5\times10), (8\times8), (3\times15)}{120}$

$= \frac{24}{120}, \frac{50}{120}, \frac{64}{120}, \frac{45}{120}$

$= \frac{24}{120} < \frac{45}{120} < \frac{50}{120} < \frac{64}{120}$

So, $\frac{1}{5} < \frac{3}{8} < \frac{5}{12} < \frac{8}{15}$

(f) $\frac{2}{3}, \frac{11}{15}, \frac{13}{20}, \frac{4}{12}$

$= \frac{(2\times20), (11\times4), (13\times3), (4\times5)}{60}$

$= \frac{40}{60}, \frac{44}{60}, \frac{39}{60}, \frac{20}{60}$

$= \frac{20}{60} < \frac{39}{60} < \frac{40}{60} < \frac{44}{60}$

So, $\frac{4}{12} < \frac{13}{20} < \frac{2}{3} < \frac{11}{15}$

4. Arrange the following fractions in descending order :

(a) $\frac{4}{9}, \frac{7}{18}, \frac{5}{21}, \frac{1}{3}$

$= \frac{(4\times14), (7\times7), (5\times6), (1\times42)}{126}$

$= \frac{56}{126}, \frac{49}{126}, \frac{30}{126}, \frac{42}{126}$

$= \frac{56}{126} > \frac{49}{126} > \frac{42}{126} > \frac{30}{126}$

So, $\frac{4}{9} > \frac{7}{18} > \frac{1}{3} > \frac{5}{21}$

(b) $\frac{2}{3}, \frac{11}{15}, \frac{5}{12}, \frac{13}{20}$

$= \frac{(2\times20), (11\times4), (5\times5), (13\times3)}{60}$

$= \frac{40}{60}, \frac{44}{60}, \frac{25}{60}, \frac{39}{60}$

$= \frac{44}{60} > \frac{40}{60} > \frac{39}{60} > \frac{25}{60}$

So, $\frac{11}{15} > \frac{2}{3} > \frac{13}{20} > \frac{5}{12}$

(c) $\frac{3}{4}, \frac{1}{6}, \frac{5}{8}, \frac{4}{9}$

$= \frac{(3\times18), (1\times12), (5\times9), (4\times8)}{72}$

$= \frac{54}{72}, \frac{12}{72}, \frac{45}{72}, \frac{32}{72}$

$= \frac{54}{72} > \frac{45}{72} > \frac{32}{72} > \frac{12}{72}$

So, $\frac{3}{4} > \frac{5}{8} > \frac{4}{9} > \frac{1}{6}$

(d) $\frac{3}{5}, \frac{2}{10}, \frac{3}{4}, \frac{1}{3}$

$= \frac{(3\times12), (2\times6), (3\times15), (1\times20)}{60}$

$= \frac{36}{60}, \frac{12}{60}, \frac{45}{60}, \frac{20}{60}$

$= \frac{45}{60} > \frac{36}{60} > \frac{20}{60} > \frac{12}{60}$

So, $\frac{3}{4} > \frac{3}{5} > \frac{3}{4} > \frac{2}{10}$

(e) $\frac{1}{7}, \frac{2}{21}, \frac{3}{12}, \frac{6}{14}$

$= \frac{(1 \times 12), (2 \times 4), (3 \times 7), (6 \times 6)}{84}$

$= \frac{12}{84}, \frac{8}{84}, \frac{21}{84}, \frac{36}{84}$

$= \frac{36}{84} > \frac{21}{84} > \frac{12}{84} > \frac{8}{84}$

So, $\frac{6}{14} > \frac{3}{12} > \frac{1}{7} > \frac{2}{21}$

(f) $\frac{1}{4}, \frac{12}{15}, \frac{16}{18}, \frac{19}{21}$

$= \frac{(1 \times 315), (12 \times 84), (16 \times 70), (19 \times 60)}{1260}$

$= \frac{315}{1260}, \frac{1008}{1260}, \frac{1120}{1260}, \frac{1140}{1260}$

$= \frac{1140}{1260} > \frac{1120}{1260} > \frac{1008}{1260} > \frac{315}{1260}$

So, $\frac{19}{21} > \frac{16}{18} > \frac{12}{15} > \frac{1}{4}$

EXERCISE 7.3

1. Add the following :

(a) $\frac{5}{8} + \frac{1}{8} = \frac{6}{8} = \frac{3}{4}$

(b) $\frac{2}{13} + \frac{10}{13} = \frac{12}{13}$

(c) $\frac{7}{22} + \frac{13}{22} = \frac{20}{22} = \frac{10}{11}$

(d) $\frac{11}{31} + \frac{12}{31} = \frac{23}{31}$

(e) $\frac{91}{108} + \frac{19}{108} = \frac{110}{108} = \frac{55}{54}$

(f) $\frac{2}{11} + \frac{7}{11} = \frac{9}{11}$

2. Add the following :

(a) $\frac{5}{12} + \frac{9}{36}$

$= \frac{(5 \times 3) + (9 \times 1)}{36}$

$= \frac{15 + 9}{36} = \frac{\cancel{24}^{2}}{\cancel{36}_{3}} = \frac{2}{3}$

(b) $\frac{2}{7} + \frac{9}{21}$

$= \frac{(2 \times 3) + (9 \times 3)}{21}$

$= \frac{6 + 27}{21} = \frac{\cancel{33}^{11}}{\cancel{21}_{7}} = \frac{11}{7} = 1\frac{4}{7}$

(c) $\frac{8}{12} + \frac{16}{15}$

$= \frac{(8 \times 5) + (16 \times 4)}{60}$

$= \frac{40 + 64}{60} = \frac{\cancel{104}^{26}}{\cancel{60}_{15}} = \frac{26}{15} = 1\frac{11}{15}$

(d) $\frac{5}{12} + \frac{7}{16}$

$= \frac{(5 \times 4) + (7 \times 3)}{48}$

$= \frac{20 + 21}{48} = \frac{41}{48}$

(e) $\frac{3}{4} + \frac{9}{12}$

$= \frac{(3 \times 3) + (9 \times 1)}{12} = \frac{9 + 9}{12} = \frac{\cancel{18}^{3}}{\cancel{12}_{2}} = \frac{3}{2}$

(f) $\frac{2}{17} + \frac{9}{51}$

$\frac{(2 \times 3) + (9 \times 1)}{51} = \frac{6 + 9}{51} = \frac{15}{51} = \frac{5}{17}$

3. Add the following :

(a) $\frac{3}{13} + \frac{6}{7} + 1$

$= \frac{(3 \times 13) + (6 \times 13) + (91 \times 1)}{91}$

$= \frac{39 + 78 + 91}{91} = \frac{208}{91} = \frac{16}{7} = 2\frac{2}{7}$

(b) $\frac{7}{9} + \frac{5}{12} + 2$

$= \frac{(7 \times 4) + (5 \times 3) + (2 \times 36)}{36}$

$= \frac{28 + 15 + 72}{36} = \frac{115}{36} = 3\frac{7}{36}$

(c) $\frac{5}{9}+\frac{4}{18}+\frac{2}{27}$

$=\frac{(5\times6)+(4\times3)+(2\times2)}{54}$

$=\frac{30+12+4}{54}=\frac{\cancel{46}^{23}}{\cancel{54}_{27}}=\frac{23}{27}$

(d) $\frac{7}{15}+\frac{3}{25}+\frac{3}{10}$

$=\frac{(7\times10)+(3\times6)+(3\times15)}{150}$

$=\frac{70+18+45}{150}=\frac{133}{150}$

(e) $1+\frac{4}{15}+\frac{3}{25}$

$=\frac{(1\times75)+(4\times5)+(3\times3)}{75}$

$=\frac{75+20+9}{75}=\frac{94}{75}=1\frac{19}{75}$

(f) $7+\frac{3}{4}+\frac{5}{12}$

$=\frac{(7\times12)+(3\times3)+(5\times1)}{12}$

$=\frac{84+9+5}{12}=\frac{98}{12}=\frac{49}{6}=8\frac{1}{6}$

4. Add the following :

(a) $3\frac{1}{5}+4\frac{2}{7}$

$=(3+4)+\frac{1}{5}+\frac{2}{7}$

$=7+\frac{(1\times7)+(2\times5)}{35}$

$=7+\frac{7+10}{35}=7\frac{17}{35}$

(b) $3\frac{2}{8}+7\frac{1}{16}$

$=(3+7)+\frac{2}{8}+\frac{1}{16}$

$=10+\frac{(2\times2)+(1\times1)}{16}$

$=10+\frac{2+3}{16}=10\frac{5}{16}$

(c) $2\frac{1}{8}+3\frac{1}{24}$

$=(2+3)+\frac{1}{8}+\frac{1}{24}$

$=5+\frac{(3\times1)+(1\times1)}{24}$

$=5+\frac{3+1}{24}=5+\frac{\cancel{4}^{2}}{\cancel{8}_{3}}=5\frac{2}{3}$

(d) $5\frac{4}{6}+6\frac{5}{24}+1\frac{5}{16}$

$=(5+6+1)+\frac{4}{6}+\frac{5}{24}+\frac{5}{16}$

$=12+\frac{(4\times8)+(5\times2)+(5\times3)}{48}$

$=12+\frac{32+10+15}{48}$

$=12+\frac{\cancel{57}^{19}}{\cancel{48}_{16}}=12+1\frac{3}{16}=13\frac{3}{16}$

(e) $1\frac{5}{12}+2\frac{1}{24}+3\frac{4}{8}$

$=(1+2+3)+\frac{5}{12}+\frac{1}{24}+\frac{4}{8}$

$=6+\frac{(5\times2)+(1\times1)+(4\times3)}{24}$

$=6+\frac{10+1+12}{24}=6+\frac{23}{24}=6\frac{23}{24}$

(f) $1\frac{3}{4}+2\frac{1}{5}+1\frac{2}{10}$

$=(1+2+1)+\frac{3}{4}+\frac{1}{5}+\frac{2}{10}$

$=4+\frac{(3\times5)+(1\times4)+(2\times2)}{20}$

$=4+\frac{15+4+4}{20}$

$=4+\frac{23}{20}=4+1\frac{3}{20}=5\frac{3}{20}$

EXERCISE 7.4

1. Subtract the following :

(a) $\frac{5}{7}-\frac{2}{7}=\frac{5-2}{7}=\frac{3}{7}$

(b) $\frac{17}{27}-\frac{6}{27}=\frac{17-6}{27}=\frac{11}{27}$

(c) $\frac{8}{11}-\frac{6}{11}=\frac{8-6}{11}=\frac{2}{11}$

(d) $\frac{20}{34} - \frac{17}{34} = \frac{20-17}{34} = \frac{3}{34}$

(e) $\frac{4}{15} - \frac{1}{15} = \frac{4-1}{15} = \frac{3}{15} = \frac{1}{5}$

(f) $\frac{5}{16} - \frac{2}{16} = \frac{5-2}{16} = \frac{3}{16}$

2. Subtract the following :

(a) $\frac{15}{32} - \frac{7}{16}$

$= \frac{(15 \times 1) - (7 \times 2)}{32}$

$= \frac{15-14}{32} = \frac{1}{32}$:

(b) $\frac{4}{9} - \frac{2}{27}$

$= \frac{(4 \times 3) - (2 \times 1)}{27} = \frac{12-2}{27} = \frac{10}{27}$

(c) $\frac{5}{8} - \frac{1}{4}$

$= \frac{(5 \times 1) - (2 \times 1)}{8} = \frac{5-2}{8} = \frac{3}{8}$

(d) $\frac{3}{4} - \frac{2}{3}$

$= \frac{(3 \times 3) - (2 \times 4)}{12} = \frac{9-8}{12} = \frac{1}{12}$

(e) $1 - \frac{1}{13}$

$= \frac{(1 \times 13) - (1 \times 1)}{13} = \frac{13-1}{13} = \frac{12}{13}$

(f) $2 - \frac{6}{9}$

$= \frac{(2 \times 9) - (6 \times 1)}{9}$

$= \frac{18-6}{9} = \frac{12}{9} = \frac{4}{3} = 1\frac{1}{3}$

3. Subtract the following :

(a) $2\frac{3}{4} - 1\frac{5}{8}$

$\frac{11}{4} - \frac{13}{8}$ (LCM = 8)

$= \frac{(11 \times 2) - (13 \times 1)}{8}$

$= \frac{22-13}{8} = \frac{9}{8} = 1\frac{1}{8}$

(b) $1\frac{3}{16} - \frac{3}{4}$

$\frac{19}{16} - \frac{3}{4}$ (LCM = 16)

$= \frac{(19 \times 1) - (3 \times 4)}{16} = \frac{19-12}{16} = \frac{7}{16}$

(c) $16\frac{3}{4} - 9\frac{9}{16}$

$\frac{67}{4} - \frac{153}{16}$

$= \frac{(67 \times 4) - (153 \times 1)}{16}$

$= \frac{268-153}{16} = \frac{115}{16} = 7\frac{3}{16}$

(d) $8\frac{3}{4} - 4\frac{1}{6}$

$\frac{35}{4} - \frac{25}{6}$

$= \frac{(35 \times 3) - (25 \times 2)}{12}$

$= \frac{105-50}{12} = \frac{55}{12} = 4\frac{7}{12}$

(e) $7\frac{1}{10} - 5\frac{3}{20}$

$\frac{71}{10} - \frac{103}{20}$

$= \frac{(71 \times 2) - (103 \times 1)}{20}$

$= \frac{142-103}{20} = \frac{39}{20} = 1\frac{19}{20}$

(f) $9\frac{4}{9} - 7\frac{2}{27}$

$\frac{85}{9} - \frac{189}{27}$

$= \frac{(85 \times 3) - (189 \times 1)}{27}$

$= \frac{255-189}{27} = \frac{66^{22}}{27_{9}} = 2\frac{4}{9}$

4. Simplify :

(a) $\frac{11}{12} - \frac{2}{3} - \frac{1}{6}$

$$= \frac{(11 \times 1) - (2 \times 4) - (1 \times 2)}{12}$$

$$= \frac{11 - 8 - 2}{12} = \frac{1}{12}$$

(b) $\frac{3}{8} - \frac{1}{4} + \frac{1}{2}$

$$= \frac{(3 \times 1) - (1 \times 2) + (1 \times 4)}{8}$$

$$= \frac{3 - 2 + 4}{8} = \frac{5}{8}$$

(c) $\frac{7}{9} - \frac{2}{3} + \frac{5}{6}$

$$= \frac{(7 \times 2) - (2 \times 6) + (5 \times 3)}{18}$$

$$= \frac{14 - 12 + 15}{18} = \frac{2 + 15}{18} = \frac{17}{18}$$

(d) $1\frac{3}{4} - 2\frac{1}{2} + 1\frac{1}{8}$

$\frac{7}{4} - \frac{5}{2} + \frac{9}{8}$

$$= \frac{(7 \times 2) - (5 \times 4) + (9 \times 1)}{8}$$

$$= \frac{14 - 20 + 9}{8} = \frac{23 - 20}{8} = \frac{3}{8}$$

(e) $1\frac{2}{3} + 2\frac{1}{6} - 1\frac{5}{12}$

$\frac{5}{3} + \frac{13}{6} - \frac{17}{12}$

$$= \frac{(5 \times 4) + (13 \times 2) - (17 \times 1)}{12}$$

$$= \frac{20 + 26 - 17}{12} = \frac{46 - 17}{12} = \frac{29}{12} = 2\frac{5}{12}$$

(f) $5\frac{2}{3} - 2\frac{1}{4} + 3\frac{5}{12}$

$\frac{17}{3} - \frac{9}{4} + \frac{41}{12}$

$$= \frac{(17 \times 4) - (9 \times 3) + (41 \times 1)}{12}$$

$$= \frac{68 - 27 + 41}{12} = \frac{109 - 27}{12}$$

$$= \frac{\cancel{82}^{41}}{\cancel{12}_{6}} = 6\frac{5}{6}$$

EXERCISE 7.5

1. Find the product :

(a) $\frac{6}{10} \times \frac{15}{36} = \frac{\cancel{6} \times \cancel{15}^{3}}{{}_{2}\cancel{10} \times \cancel{36}_{6\,2}} = \frac{1}{4}$

(b) $\frac{16}{25} \times \frac{15}{32} = \frac{\cancel{16} \times \cancel{15}^{3}}{{}_{5}\cancel{25} \times \cancel{32}_{2}} = \frac{3}{10}$

(c) $\frac{9}{14} \times \frac{21}{15} = \frac{{}^{3}\cancel{9} \times \cancel{21}^{3}}{{}_{2}\cancel{14} \times \cancel{15}_{5}} = \frac{9}{10}$

(d) $\frac{7}{15} \times 60 = \frac{7}{\cancel{15}} \times \cancel{60}^{4} = 28$

(e) $\frac{13}{55} \times \frac{33}{65} = \frac{\cancel{13} \times \cancel{33}^{3}}{{}_{5}\cancel{55} \times \cancel{65}_{5}} = \frac{3}{25}$

(f) $\frac{3}{16} \times \frac{8}{27} = \frac{\cancel{3} \times \cancel{8}}{{}_{2}\cancel{16} \times \cancel{27}_{9}} = \frac{1}{18}$

2. Find the product :

(a) $8\frac{1}{3} \times 36 = \frac{25}{\cancel{3}} \times \cancel{36}^{12} = 300$

(b) $7\frac{2}{5} \times \frac{3}{10} = \frac{37}{5} \times \frac{3}{10} = \frac{111}{50} = 2\frac{11}{50}$

(c) $5\frac{2}{5} \times \frac{25}{54}$

$$= {}^{3}\cancel{\frac{27}{5}} \times \frac{\cancel{25}^{5}}{\cancel{54}_{6}} = \frac{15}{6} = \frac{5}{2} = 2\frac{1}{2}$$

(d) $2\frac{4}{11} \times \frac{33}{39}$

$$= {}^{2}\cancel{\frac{26}{11}} \times \frac{\cancel{33}^{3}}{\cancel{39}_{3}} = 2$$

(e) $4\frac{6}{7} \times 1\frac{10}{74}$

$$= \frac{34}{7} \times \frac{\cancel{84}^{126}}{\cancel{74}_{37}} = \frac{204}{37} = 5\frac{19}{37}$$

(f) $6\frac{3}{8} \times 2\frac{3}{4}$

$$= \frac{51}{8} \times \frac{11}{4} = \frac{561}{32} = 17\frac{17}{32}$$

3. Find the product :

(a) $\frac{5}{6} \times \frac{15}{42} \times \frac{36}{52}$

$$= \frac{5 \times 15 \times \cancel{36}^{6}}{\cancel{6} \times \cancel{42}_{7} \times 52} = \frac{75}{364}$$

(b) $\frac{13}{35} \times \frac{5}{26} \times \frac{4}{11}$

$= \frac{\cancel{13} \times \cancel{5} \times \cancel{4}^{2}}{\cancel{35}_{7} \times \cancel{26}_{2} \times 11} = \frac{2}{77}$

(c) $\frac{5}{11} \times \frac{33}{25} \times \frac{8}{63}$

$= \frac{\cancel{5} \times \cancel{33}^{3} \times 8}{\cancel{11} \times \cancel{25}_{5} \times \cancel{63}_{21}} = \frac{8}{105}$

(d) $4\frac{4}{5} \times 1\frac{1}{2} \times 3\frac{3}{4}$

$= \frac{24}{5} \times \frac{3}{2} \times \frac{15}{4}$

$= \frac{\cancel{24}^{3} \times 3 \times \cancel{15}^{3}}{\cancel{5} \times \cancel{2} \times \cancel{4}} = 27$

(e) $3\frac{3}{10} \times 1\frac{13}{22} \times 5\frac{1}{4}$

$= \frac{33}{10} \times \frac{35}{22} \times \frac{21}{4}$

$= \frac{\cancel{33}^{3} \times \cancel{35}^{7} \times 21}{\cancel{10}_{2} \times \cancel{22}_{2} \times 4} = \frac{441}{16} = 27\frac{9}{16}$

(f) $4\frac{3}{5} \times 3\frac{2}{7} \times \frac{21}{46}$

$= \frac{23}{5} \times \frac{23}{7} \times \frac{21}{46}$

$= \frac{23 \times \cancel{23} \times \cancel{21}^{3}}{5 \times \cancel{7} \times \cancel{46}_{2}} = \frac{69}{10} = 6\frac{9}{10}$

4. Find :

(a) $\frac{3}{\cancel{7}} \times \cancel{98}^{14} = 42$ (b) $\frac{2}{\cancel{5}} \times \cancel{100}^{20} = 40$

(c) $\frac{\cancel{2}}{5} \times \frac{43}{\cancel{4}_{2}} = \frac{43}{10} = 4\frac{3}{10}$

(d) $\frac{49}{4} \times \frac{17}{4} = \frac{833}{16} = 52\frac{1}{16}$

(e) $\frac{10}{\cancel{7}} \times \cancel{105}^{15} = 150$

(f) $\frac{41}{\cancel{9}} \times \cancel{81}^{9} = 369$

EXERCISE 7.6

1. Divide :

(a) $18 \div \frac{90}{15} = \cancel{18} \times \frac{\cancel{15}^{3}}{\cancel{90}_{1}} = 3$

(b) $45 \div 3\frac{3}{14}$

$45 \div \frac{45}{14} = \cancel{45} \times \frac{14}{\cancel{45}} = 14$

(c) $4\frac{3}{5} \div \frac{1}{7}$

$\frac{23}{5} \div \frac{1}{7} = \frac{23}{5} \times 7 = \frac{161}{5} = 32\frac{1}{5}$

(d) $5\frac{2}{5} \div 3\frac{2}{15}$

$\frac{27}{5} \div \frac{47}{15} = \frac{27}{\cancel{5}} \times \frac{\cancel{15}^{3}}{47} = \frac{81}{47} = 1\frac{34}{47}$

(e) $25\frac{1}{6} \div 5\frac{5}{12}$

$\frac{151}{6} \div \frac{65}{12} = \frac{151}{\cancel{6}} \times \frac{\cancel{12}^{2}}{65} = \frac{302}{65} = 4\frac{42}{65}$

(f) $6\frac{3}{8} \div 2\frac{3}{4}$

$\frac{51}{8} \div \frac{11}{4} = \frac{51}{\cancel{8}_{2}} \times \frac{\cancel{4}}{11} = \frac{51}{22} = 2\frac{7}{22}$

(g) $2\frac{6}{7} \div 3\frac{1}{24}$

$\frac{20}{7} \div \frac{73}{24} = \frac{20}{7} \times \frac{24}{73} = \frac{480}{511}$

(h) $1\frac{5}{8} \div \frac{1}{2}$

$\frac{13}{8} \div \frac{1}{2} = \frac{13}{\cancel{8}_{4}} \times \cancel{2} = \frac{13}{4} = 3\frac{1}{4}$

(i) $\frac{6}{17} \div 1\frac{1}{51}$

$\frac{6}{17} \div \frac{52}{51} = \frac{\cancel{6}^{3}}{17} \times \frac{\cancel{51}^{3}}{\cancel{52}_{26}} = \frac{9}{26}$

(j) $2\frac{1}{8} \div 1\frac{1}{16}$

$\frac{17}{8} \div \frac{17}{16} = \frac{\cancel{17}}{\cancel{8}} \times \frac{\cancel{16}^{2}}{\cancel{17}} = 2$

(k) $1\frac{2}{3} \div 3\frac{3}{5}$

$\frac{5}{3} \div \frac{18}{5} = \frac{5}{3} \times \frac{5}{18} = \frac{25}{54}$

(l) $\frac{7}{15} \div \frac{21}{35}$

$$= \frac{\cancel{7}}{\cancel{15}_3} \times \frac{\cancel{35}^{7}}{\cancel{21}_3} = \frac{7}{9}$$

EXERCISE 7.7

1. Cost of 1 chair $= ₹\ 37\frac{6}{11}$

Cost of 1 table $= ₹\ 41\frac{5}{11}$

So, total cost of both items

$$= ₹\left(37\frac{6}{11} + 41\frac{5}{11}\right) = ₹\left(\frac{413}{11} + \frac{456}{11}\right)$$

$$= ₹\left(\frac{413+456}{11}\right) = ₹\ \frac{869}{11} = ₹\ 79$$

2. Cost of 1 kg sugar $= ₹\ 11\frac{2}{3}$

Cost of 1 kg flour $= ₹\ 71\frac{2}{5}$

So, total cost of both items

$$= ₹\left(11\frac{2}{3} + 71\frac{2}{5}\right) = ₹\left(\frac{35}{3} + \frac{357}{5}\right)$$

$$= ₹\left(\frac{(35\times5)+(357\times3)}{15}\right)$$

$$= ₹\left(\frac{175+1071}{15}\right) = ₹\ \frac{1246}{15} = ₹\ 83\frac{1}{15}$$

3. Length of rope $= 200$ m

One piece of length $= 32\frac{1}{5}$ m

Second piece of length $= 95\frac{1}{4}$ m

So, total length of two pieces

$$= \left(32\frac{1}{5} + 95\frac{1}{4}\right) = \frac{161}{5} + \frac{381}{4}$$

$$= \frac{(161\times4)+(381\times5)}{20}$$

$$= \frac{644+1905}{20} = \frac{2549}{20}\ \text{m}$$

So, length of remaining rope

$$= \left(200 - \frac{2549}{20}\right)\text{m}$$

$$= \frac{(200\times20)-2549}{20}$$

$$= \frac{1451}{20} = 72\frac{11}{20}\ \text{m}$$

4. Manoj has manuals $= 70$

Out of them English $= \frac{3}{5}$

So, total manual of English $= {}^{14}\cancel{70} \times \frac{3}{\cancel{5}}$

$$= 14 \times 3 = 42$$

And, Number of other subjects

$$= 70 - 42 = 28$$

5. Total number of teachers $= 120$

Number of male teachers $= \frac{3}{8}$

So, number of total male teachers

$$= {}^{15}\cancel{120} \times \frac{3}{\cancel{8}} = 45$$

6. Cost of $8\frac{1}{2}$ m $\left(\frac{17}{2}\text{m}\right)$ cloth

$$= ₹\ 120\frac{3}{5} = ₹\ \frac{603}{5}$$

Cost of 1 m cloth $= \frac{603}{5} \div \frac{17}{2} = \frac{603}{5} \times \frac{2}{17}$

$$= \frac{1206}{85} = ₹\ 14\frac{16}{85}$$

7. 1 first class ticket costs

$$= ₹\ 282\frac{4}{5} = ₹\ \frac{1414}{5}$$

Cost of 8 tickets $= ₹\ \frac{1414}{5} \times 8$

$$= ₹\ \frac{11312}{5} = ₹\ 2262\frac{2}{5}$$

8. $\frac{5}{62}$ part of journey $= 6\frac{1}{5}$ or $\frac{31}{5}$ km

Whole Part or 1 of journey $= \frac{31}{5} \div \frac{5}{62}$ km

$$= \frac{31}{5} \times \frac{62}{5} = \frac{1922}{25} = 76\frac{22}{25}\ \text{km}$$

9. Length of cord $= 31\frac{1}{5}\ \text{m} = \frac{156}{5}\ \text{m}$

So, length of each 27 pieces $= \frac{156}{5} \div 27$

$$= {}^{52}\frac{\cancel{156}}{5} \times \frac{1}{\cancel{27}_9} = \frac{52}{45} = 1\frac{7}{45}\ \text{m}$$

10. Quantity of oil $= 33\frac{1}{4}\,l = \frac{133}{4}\,l$

Capacity of oil filled in container

$$= 1\frac{3}{4}\,l = \frac{7}{4}\,l$$

So, number of container are needed

$$= \frac{133}{4} \div \frac{7}{4}$$

$$= \frac{^{19}\cancel{133}}{\cancel{4}} \times \frac{\cancel{4}}{\cancel{7}} = \mathbf{19}$$

Comulative Revision – II

1. Write first five multiples of :

   (a) $16 \times 1 = 16$, $16 \times 2 = 32$, $16 \times 3 = 48$, $16 \times 4 = 64$, $16 \times 5 = 80$

   (b) $13 \times 1 = 13$, $13 \times 2 = 26$, $13 \times 3 = 39$, $13 \times 4 = 52$, $13 \times 5 = 65$

2. Find the HCF of 18, 30 and 60 by common factor method.

   Factors of 18 = 1, 2, 3, 9, 18

   Factors of 30 = 1, 2, 3, 6, 10, 15, 30

   Factors of 60 = 1, 2, 3, 4, 5, 6, 10, 12, 15, 30, 60

   Common factors = 1, 2, 3, 5, 6

   6 is highest common factor (HCF).

3. Find the LCM of 35, 60 and 120 by prime fatorization method.

5	35
	7

2	60
2	30
3	15
	5

2	120
2	60
2	30
3	15
	5

$35 = 5 \times 7$

$60 = 2 \times 2 \times 3 \times 5$

$120 = 2 \times 2 \times 2 \times 3 \times 5$

LCM $= 5 \times 7 \times 2 \times 2 \times 3 \times 5 \times 2 = 4200$

4. Find the HCF of 68 and 153 with the help of their LCM.

First, LCM of 68, 153

LCM $= 2 \times 3 \times 17 \times 2 \times 3$

$= 612$

2	68, 153
3	34, 153
17	34, 51
2	2, 3
3	1, 3
	1, 1

Now, HCF $= \frac{\text{one number} \times \text{other number}}{\text{LCM}}$

$$= \frac{68 \times 153}{612} = \mathbf{17}$$

5. Arrange $\frac{7}{11}, \frac{1}{3}, \frac{5}{6}$ and $\frac{14}{16}$ in descending order.

$\frac{7}{11}, \frac{1}{3}, \frac{5}{6}, \frac{14}{16}$

$= \frac{(7 \times 48), (1 \times 176), (5 \times 88), (14 \times 33)}{528}$

$= \frac{336}{528}, \frac{176}{528}, \frac{440}{528}, \frac{462}{528}$

$= \frac{462}{528} > \frac{440}{528} > \frac{336}{528} > \frac{176}{528}$

So, $\frac{14}{16} > \frac{5}{6} > \frac{7}{11} > \frac{1}{3}$

8. Decimals

EXERCISE 8.1

1. See in answersheet.
2. Write the following decimals in place-value chart and write also number names :

	Decimals	Th	H	T	O	Dec.	T	H	Th
(a)	61.214			6	1	.	2	1	4
(b)	31.025			3	1	.	0	2	5
(c)	50.007			5	0	.	0	0	7
(d)	78.921			7	8	.	9	2	1
(e)	521.718		5	2	1	.	7	1	8
(f)	612.703		6	1	2	.	7	0	3
(g)	102.005		1	0	2	.	0	0	5
(h)	143.215		1	4	3	.	2	1	5

(b) Thirty one point zero two five.

(c) Fifty point zero zero seven.

(d) Seventy eigth point nine two one.

(e) Five hundred twenty one point seven one eight.

(f) Six hundred twelve point seven zero three.

(g) One hundred two point zero zero five.

(h) One hundred forty three point two one five.

3, 4, 5, 6 and **7** See in answersheet.

EXERCISE 8.2

1. Add the following :

(a)
$$\begin{array}{r} 35.25 \\ 15.20 \\ +44.97 \\ \hline 95.42 \end{array}$$

(b)
$$\begin{array}{r} 253.530 \\ 29.021 \\ +\ 3.090 \\ \hline 285.641 \end{array}$$

(c)
$$\begin{array}{r} 98.249 \\ 107.251 \\ +270.431 \\ \hline 475.931 \end{array}$$

(d)
$$\begin{array}{r} 36.000 \\ 4.090 \\ +315.205 \\ \hline 355.295 \end{array}$$

(e)
$$\begin{array}{r} 95.092 \\ 97.505 \\ +\ 92.309 \\ \hline 284.906 \end{array}$$

(f)
$$\begin{array}{r} 265.249 \\ 83.615 \\ +\ 45.045 \\ \hline 393.909 \end{array}$$

2. Find the difference :

(a)
$$\begin{array}{r} 308.599 \\ -\ 99.694 \\ \hline 208.105 \end{array}$$

(b)
$$\begin{array}{r} 228.286 \\ -124.840 \\ \hline 100.446 \end{array}$$

(c)
$$\begin{array}{r} 463.000 \\ -294.909 \\ \hline 168.091 \end{array}$$

(d)
$$\begin{array}{r} 883.737 \\ -425.948 \\ \hline 457.789 \end{array}$$

(e)
$$\begin{array}{r} 805.340 \\ -499.676 \\ \hline 105.684 \end{array}$$

(f)
$$\begin{array}{r} 20.000 \\ -19.624 \\ \hline 0.376 \end{array}$$

3. Simplify :

(a) 17.35 + 9.214 – 12.615 + 0.34

First we add same signs.

$$\begin{array}{r} 17.350 \\ 9.214 \\ +\ 0.340 \\ \hline 26.904 \end{array}$$

Now we subtract 26.904 from 12.615

$$\begin{array}{r} 26.904 \\ -12.615 \\ \hline 14.289 \end{array}$$

(b) 420 – 229.213 + 17.7 – 31.95

First we add same signs.

$$\begin{array}{r} 420.0 \\ +\ 17.7 \\ \hline 437.7 \end{array} \qquad \begin{array}{r} 229.213 \\ +\ 31.950 \\ \hline 261.163 \end{array}$$

Now, subtract 261.163 from 437.7.

$$\begin{array}{r} 437.700 \\ -261.163 \\ \hline 176.537 \end{array}$$

(c) 80 + 30.47 – 19.38 – 22.451

We add same signs.

$$\begin{array}{r} 80.00 \\ +\ 30.47 \\ \hline 110.47 \end{array} \qquad \begin{array}{r} 19.380 \\ +22.451 \\ \hline 41.831 \end{array}$$

Now subtract 41.831 from 110.47.

$$\begin{array}{r} 110.479 \\ -\ 41.831 \\ \hline 68.639 \end{array}$$

(d) 91.345 – 85.428 + 60.438 – 22.346

We add same signs.

$$\begin{array}{r} 91.345 \\ +\ 60.438 \\ \hline 151.783 \end{array} \qquad \begin{array}{r} 85.428 \\ +\ 22.346 \\ \hline 107.774 \end{array}$$

Now, subtract 107.774 from 151.783.

$$\begin{array}{r} 151.783 \\ -107.774 \\ \hline 44.009 \end{array}$$

(e) 17 – 3.768 – 2.502 – 3.712

We add same signs.

$$\begin{array}{r} 17.000 \\ -\ 9.982 \\ \hline 7.018 \end{array} \qquad \begin{array}{r} 3.768 \\ 2.502 \\ +3.712 \\ \hline 9.982 \end{array}$$

Now, subtract 9.982 from 17.

(f) 92.642 – 13.761 – 28.992 + 15.60

We add same signs.

$$\begin{array}{r} {\scriptstyle (1)\ (1)} \\ 92.642 \\ +\ 15.600 \\ \hline 108.242 \end{array}$$

$$\begin{array}{r} {\scriptstyle (1)(1)\ (1)} \\ 13.761 \\ +\ 28.992 \\ \hline 42.753 \end{array}$$

Now subtract

$$\begin{array}{r} {\scriptstyle \quad\quad\quad (11)(13)} \\ {\scriptstyle (0)(10)(7)\ (1)(3)(12)} \\ 108.242 \\ -\ 42.753 \\ \hline 65.489 \end{array}$$

EXERCISE 8.3

1. See in answersheet.
2. Convert the following fractions into decimals :

(a) $\frac{1}{4} = \frac{1}{4} \times \frac{25}{25} = \frac{25}{100} = 0.25$

(b) $\frac{16}{25} = \frac{16 \times 4}{25 \times 4} = \frac{64}{100} = 0.64$

(c) $\frac{31}{20} = \frac{31 \times 5}{20 \times 5} = \frac{155}{100} = 1.55$

(d) $\frac{119}{125} = \frac{119 \times 8}{125 \times 8} = \frac{952}{1000} = 0.952$

(e) $\frac{385}{250} = \frac{385 \times 4}{250 \times 4} = \frac{1540}{1000} = 1.54$

(f) $\frac{132}{500} = \frac{132 \times 2}{500 \times 2} = \frac{264}{1000} = 0.264$

(g) $\frac{79}{125} = \frac{79 \times 8}{125 \times 8} = \frac{632}{1000} = 0.632$

(h) $\frac{99}{20} = \frac{99 \times 5}{20 \times 5} = \frac{495}{100} = 4.95$

3. Convert the following decimals into fractions :

(a) $24.5 = \frac{\cancel{245}^{49}}{\cancel{100}_{20_2}} = \frac{49}{20} = 24\frac{1}{2}$

(b) $0.48 = \frac{\cancel{48}^{12}}{\cancel{100}_{25}} = \frac{12}{25}$

(c) $3.225 = \frac{\cancel{3225}^{129}}{\cancel{1000}_{40}} = \frac{129}{40}$

(d) $9.425 = \frac{\cancel{9425}^{377}}{\cancel{1000}_{40}} = \frac{377}{40}$

(e) $7.35 = \frac{\cancel{735}^{147}}{\cancel{100}_{20}} = \frac{147}{20}$

(f) $4.6 = \frac{\cancel{46}^{23}}{\cancel{10}_{5}} = \frac{23}{5}$

(g) $0.036 = \frac{\cancel{36}^{9}}{\cancel{1000}_{250}} = \frac{9}{250}$

(h) $1.025 = \frac{\cancel{1025}^{41}}{\cancel{1000}_{20}} = \frac{41}{20}$

EXERCISE 8.4

1. See in answersheet.
2. Find the products :

(a)
$$\begin{array}{r} 8316 \\ \times\ 23 \\ \hline 24948 \\ 16632\times \\ \hline 191268 \end{array}$$

Hence, $8316 \times 2.3 = 19126.8$

(b)
$$\begin{array}{r} 12532 \\ \times\ 32 \\ \hline 25064 \\ 37596\times \\ \hline 401024 \end{array}$$

Hence, $12532 \times 3.2 = 40102.4$

(c)
$$\begin{array}{r} 615 \\ \times\ 15 \\ \hline 3075 \\ 615\times \\ \hline 9225 \end{array}$$

Hence, $615 \times 1.5 = 922.5$

(d)
$$\begin{array}{r} 87 \\ \times\ 43 \\ \hline 261 \\ 348\times \\ \hline 3741 \end{array}$$

Hence, $87 \times 4.3 = 374.1$

(e)
$$\begin{array}{r} 372 \\ \times\ 46 \\ \hline 2232 \\ 1488\times \\ \hline 17112 \end{array}$$

Hence, $372 \times 4.6 = 1711.2$

(f)
$$\begin{array}{r} 192 \\ \times\ 513 \\ \hline 576 \\ 192\times \\ 960\times\times \\ \hline 98496 \end{array}$$

Hence, $192 \times 5.13 = 984.96$

3. Find the products :

(a)
$$\begin{array}{r} 3528 \\ \times\ 413 \\ \hline 10584 \\ 3528\times \\ 14112\times\times \\ \hline 1457064 \end{array}$$

Hence, $35.25 \times 4.13 = 145.7064$

(b)
$$\begin{array}{r} 5016 \\ \times\ 132 \\ \hline 10032 \\ 15048\times \\ 5016\times\times \\ \hline 662112 \end{array}$$

Hence, $5.016 \times 1.32 = 6.62112$

(c)
$$\begin{array}{r} 7258 \\ \times\ 9312 \\ \hline 14516 \\ 7258\times \\ 21774\times\times \\ 67576496 \end{array}$$

Hence, $72.58 \times 9.312 = 675.86498$

(d)
$$\begin{array}{r} 653 \\ \times\ 782 \\ \hline 1306 \\ 5224\times \\ 4571\times\times \\ 510646 \end{array}$$

Hence, $6.53 \times 0.782 = 5.10646$

(e)
$$\begin{array}{r} 239 \\ \times\ 192 \\ \hline 478 \\ 2151\times \\ 239\times\times \\ 45888 \end{array}$$

Hence, $2.39 \times 19.2 = 45.888$

(f)
$$\begin{array}{r} 3304 \\ \times\ 127 \\ \hline 23128 \\ 6608\times \\ 3304\times\times \\ 419608 \end{array}$$

Hence, $3.304 \times 12.7 = 41.9608$

EXERCISE 8.5

1. See in answersheet.

2. Find the quotient :

(a) $17.26 \div 20$

$$= \frac{17.26}{20} = \frac{17.26}{2\times 10}$$

$$= \frac{1}{2} \times \frac{17.26}{10} = \frac{1.726}{2} = \mathbf{0.863}$$

(b) $9.27 \div 90$

$$= \frac{9.27}{90} = \frac{9.37}{9\times 10} = \frac{1}{9} \times \frac{9.27}{10}$$

$$= \frac{0.927}{9} = \mathbf{0.103}$$

(c) $94.24 \div 80$

$$= \frac{94.24}{80} = \frac{94.24}{8\times 10} = \frac{1}{8} \times \frac{94.24}{10}$$

$$= \frac{9.424}{8} = \mathbf{1.178}$$

(d) $65.13 \div 130$

$$= \frac{65.13}{130} = \frac{65.13}{13\times 10} = \frac{1}{13} \times \frac{65.13}{10}$$

$$= \frac{6.513}{13} = \mathbf{0.501}$$

(e) $250.8 \div 24 = \frac{20.9}{2} = \frac{20.9\times 5}{2\times 5}$

$$= \frac{104.5}{10} = \mathbf{10.45}$$

(f) $5.25 \div 25 = \frac{5.25\times 4}{25\times 4} = \frac{21}{100} = \mathbf{0.21}$

(g) $650.3 \div 700 = \frac{650.3}{700} = \frac{1}{7} \times \frac{650.3}{100}$

$$= \frac{1}{7} \times 6.503 = \mathbf{0.929}$$

(h) $8.48 \div 400 = \frac{8.480}{400} = \frac{1}{4} \times \frac{8.480}{100}$

$$= \frac{1}{4} \times 0.0848 = \mathbf{0.0212}$$

(i) $0.0312 \div 125 = \frac{0.0312}{125} = \frac{0.0312\times 8}{125\times 8}$

$$= \frac{0.2496}{1000} = \mathbf{0.0002496}$$

3. Divide and find the quotient :

(a) $38.0079 \div 9$

$$\begin{array}{r|l} 9 & 38.0079 \\ -36 & \\ \hline 20 & \\ -18 & \\ \hline 27 & \\ -27 & \\ \hline 09 & \\ -9 & \\ \hline 0 & \end{array} \quad 4.2231$$

Hence, quotient = **4.2231**

(b) $248.768 \div 26$

$$\begin{array}{r|l} 26 & 248.768 \\ -234 & \\ \hline 147 & \\ -130 & \\ \hline 176 & \\ -156 & \\ \hline 208 & \\ -208 & \\ \hline 0 & \end{array} \quad 9.568$$

Hence, quotient = **9.568**

(c) 135.625 ÷ 35

$$\begin{array}{r|l} 35 & 135.625 \\ -105 & \\ \hline 30\,6 & \\ -28\,0 & \\ \hline 2\,62 & \\ -2\,45 & \\ \hline 175 & \\ -175 & \\ \hline 0 & \end{array} \quad 3.875$$

Hence,
quotient = **3.875**

(d) 41.58 ÷ 18

$$\begin{array}{r|l} 18 & 41.58 \\ -36 & \\ \hline 5\,5 & \\ -5\,4 & \\ \hline 18 & \\ -18 & \\ \hline 0 & \end{array} \quad 2.31$$

Hence,
quotient = **3.875**

(e) 701.04 ÷ 12

$$\begin{array}{r|l} 12 & 701.04 \\ -60 & \\ \hline 101 & \\ -96 & \\ \hline 5\,0 & \\ -4\,8 & \\ \hline 24 & \\ -24 & \\ \hline 0 & \end{array} \quad 58.42$$

Hence,
quotient = **58.42**

(f) 779.552 ÷ 17

$$\begin{array}{r|l} 17 & 779.552 \\ -68 & \\ \hline 99 & \\ -85 & \\ \hline 14\,5 & \\ -13\,6 & \\ \hline 95 & \\ -85 & \\ \hline 102 & \\ -102 & \\ \hline 0 & \end{array} \quad 45.856$$

Hence,
quotient = **45.856**

(g) 0.2508 ÷ 12

$$\begin{array}{r|l} 12 & 0.2508 \\ -24 & \\ \hline 108 & \\ -108 & \\ \hline 0 & \end{array} \quad 0.009$$

Hence,
quotient = **0.009**

(h) 98.352 ÷ 16

$$\begin{array}{r|l} 16 & 98.352 \\ -96 & \\ \hline 23 & \\ -16 & \\ \hline 75 & \\ -64 & \\ \hline 112 & \\ -112 & \\ \hline 0 & \end{array} \quad 6.147$$

Hence,
quotient = **6.147**

(i) 45.609 ÷ 23

$$\begin{array}{r|l} 23 & 45.609 \\ -23 & \\ \hline 226 & \\ -207 & \\ \hline 190 & \\ -184 & \\ \hline 69 & \\ -69 & \\ \hline 0 & \end{array} \quad 1.983$$

Hence,
quotient = **1.983**

4. Divide and find the quotient :

(a) $1.635 \div 0.03$

$$= \frac{1.635}{0.03} = \frac{1.635}{3} \times \frac{100}{100} = \frac{163.5}{3}$$

$$\begin{array}{r|l} 3 & 163.5 \\ -15 & \\ \hline 13 & \\ -12 & \\ \hline 15 & \\ -15 & \\ \hline 0 & \end{array} \quad 54.5$$

So, $\frac{163.5}{3} =$ **54.5**

(b) $0.520976 \div 0.016$

$$= \frac{0.520976}{0.016} = \frac{0.520976}{16} \times \frac{1000}{1000}$$

$$= \frac{520.796}{16}$$

$$\begin{array}{r|l} 16 & 520.976 \\ -48 & \\ \hline 40 & \\ -32 & \\ \hline 89 & \\ -80 & \\ \hline 97 & \\ -96 & \\ \hline 16 & \\ -16 & \\ \hline 0 & \end{array} \quad 32.561$$

So, $\frac{520.976}{16} =$ **32.561**

(c) $0.0184 \div 0.004$

$= \frac{0.0184}{0.004} = \frac{18.4}{4} \times \frac{1000}{1000}$

So, $\frac{18.4}{4} = \mathbf{4.6}$

$4\overline{)18.4}\,(4.6$
$-16\downarrow$
24
-24
0

(d) $0.5313 \div 2.31$

$= \frac{0.5313}{2.31} = \frac{5313}{231} \times \frac{100}{100}$

$= \frac{53.13}{231}$

So, $\frac{53.13}{231} = \mathbf{0.23}$

$231\overline{)53.13}\,(0.23$
$-462\downarrow$
693
-693
0

(e) $0.003003 \div 0.014$

$= \frac{0.003003}{14} \times \frac{1000}{1000}$

So, $\frac{3.003}{14}$

$= \mathbf{0.2145}$

$14\overline{)3.003}\,(0.2145$
$-28\downarrow$
20
$-14\downarrow$
63
-56
70
-70
0

(f) $0.648 \div 0.008$

$= \frac{0.648}{0.008} \times \frac{1000}{1000}$

$= \frac{648}{8} = \mathbf{81}$

$8\overline{)648}\,(81$
$-64\downarrow$
08
-8
0

(g) $11.4731 \div 0.031$

$= \frac{11.4731}{0.031} \times \frac{1000}{1000}$

$= \frac{1147.31}{31}$

$= \mathbf{37.01}$

$31\overline{)1147.31}\,(37.01$
-93
217
-217
31
-31
0

(h) $0.00036 \div 0.09$

$= \frac{0.00036}{0.09} \times \frac{100}{100}$

$= \frac{0.036}{9} = \mathbf{0.004}$

$9\overline{)0.036}\,(0.004$
-36
$\times$

(i) $0.00064 \div 0.16$

$= \frac{0.00064}{0.16} \times \frac{100}{100}$

$= \frac{0.064}{16} = \mathbf{0.004}$

$16\overline{)0.064}\,(0.004$
-64
$\times$

5. Divide and find the quotient :

(a) $144 \div 0.72$

$= \frac{144}{0.72} = \frac{144}{72} \times 100$

$2 \times 100 = \mathbf{200}$

$72\overline{)144}\,(2$
-144
0

(b) $168 \div 0.004$

$= \frac{168}{0.004} = \frac{168}{4} \times 1000$

So, $\frac{168}{4} \times 1000$

$= 42 \times 1000 = \mathbf{42000}$

$4\overline{)168}\,(42$
$-16\downarrow$
08
-8
0

(c) $147 \div 0.0007$

$= \frac{147}{0.0007} = \frac{147}{7} \times 10000$

So, $\frac{147}{7} \times 10000$

$21 \times 10000 = \mathbf{210000}$

$7\overline{)147}\,(21$
$-14\downarrow$
07
-7
0

(d) $169 \div 0.13$

$= \frac{169}{0.13} = \frac{169}{13} \times 100$

So, $\frac{169}{13} \times 100$

$13 \times 100 = \mathbf{1300}$

$13\overline{)169}\,(13$
$-13\downarrow$
39
-39
0

(e) $492 \div 0.123$

$= \frac{492}{0.123} = \frac{492}{123} \times 1000$

So, $\frac{492}{123} \times 1000$

$4 \times 1000 = \mathbf{4000}$

$123\overline{)492}\,(4$
-492
0

(f) $36 \div 0.045$

$= \frac{36}{0.045} = \frac{36}{45} \times 1000$

$45\overline{)36000}\,(800$
$-360\downarrow\downarrow$
000

$= \frac{36000}{45} = \mathbf{800}$

(g) $256 \div 0.08$

$= \frac{256}{0.08} \times \frac{100}{100} = \frac{256}{5} \times 100$

$= 32 \times 100 = \mathbf{3200}$

(h) $484 \div 0.0022$

$= \frac{484}{0.0022} \times \frac{10000}{10000}$

$= \frac{484}{22} \times 10000$

$= 22 \times 10000 = \mathbf{220000}$

(i) $125 \div 0.05$

$= \frac{125}{0.05} = \frac{125 \times 100}{0.05 \times 100}$

$= \frac{125}{5} \times 100 = 5 \times 100 = \mathbf{500}$

6. Divide and find the quotient :

(a) $896 \div 800$

$= \frac{896}{8 \times 100}$

So, $\frac{896}{8 \times 100} = \frac{112}{100} = \mathbf{1.12}$

(b) $18 \div 32000$

$= \frac{18}{32 \times 1000} = \frac{180}{3200} = \mathbf{0.0005625}$

(c) $35 \div 70$

$= \frac{35}{70} = \frac{35}{7 \times 10}$

So, $\frac{35}{7} \times \frac{1}{10} = \frac{5}{10} = \mathbf{0.5}$

(d) $96 \div 480$

$= \frac{96}{480} = \frac{96}{48} \times \frac{1}{10}$

So, $\frac{96}{48} \times \frac{1}{10} = \frac{2}{10} = \mathbf{0.2}$

(e) $144 \div 3600$

$= \frac{144}{3600} = \frac{144}{36} \times \frac{1}{100}$

So, $= \frac{144}{36} \times \frac{1}{100} = \frac{4}{100} = \mathbf{0.04}$

(f) $150 \div 6000$

$= \frac{150}{6 \times 1000} = \frac{150}{6} \times \frac{1}{1000}$

So, $\frac{150}{6} \times \frac{1}{1000} = \frac{25}{1000}$

$= \mathbf{0.025}$

(g) $1 \div 125 = \frac{1}{125} = \frac{1 \times 8}{125 \times 8}$

$= \frac{8}{1000} = \mathbf{0.008}$

(h) $25 \div 800$

$\frac{25}{800} = \frac{25}{8} \times \frac{1}{100}$

$= 3.125 \times \frac{1}{100}$

$= \mathbf{0.03125}$

(i) $32 \div 8000 = \frac{32}{8000}$

$= \frac{32}{8} \times \frac{1}{1000}$

$= \frac{4}{1000} = \mathbf{0.004}$

EXERCISE 8.6

1. Cost of one pen = ₹ 62.35

Cost of one holder = ₹ 112.75

So, cost of both items

= ₹ 62.35 + ₹ 112.75 = ₹ **175.10**

2. Rita has money = ₹ 6000

She buy a dress = ₹ 2096.48

Buy a pair of shoes = ₹ 3215.70

So, total cost of both items

= ₹ 2096.48 + ₹ 3215.70 = ₹ **5312.18**

So, total money she has now

= ₹ 6000.00 – ₹ 5312.18 = ₹ **687.82**

3. Cost of 1 book = ₹ 219.50

Cost of 14 books = ₹ (219.50 × 14)

= ₹ **3073.00**

4. One container can hold oil = 16.785 l

115 containers hold oil

= (16.785 × 115) l = **1930.275 l**

5. 15 rings weight = 454.50 g

So, each ring weight = 454.50 ÷ 15

= **30.3 g**

6. Sudha runs in 5 days = 1780.50 m
So, she runs each day = 1780.50 ÷ 5
= **356.10 m**

7. Price of 19 l milk = ₹ 1068.75
Price of 1 l milk = ₹ 1068.75 ÷ 19
= **₹ 56.25**

8. Cloth for 15 shirts = 73.65 m
Cloth for 1 shirt = 73.65 ÷ 15
= **4.91 m**

Half Yearly Examination Paper
(Page no. 89 - 90)

1. Tick (✓) the correct option :
(a) (iv); (b) (ii); (c) (i); (d) (ii).

2.

Millions	M	7	6	2	8	5	4	9
	T-M	7	6	2	8	5	4	9
	H-M		6	2	8	5	4	9
Thousands	T-th			2	8	5	4	9
	H-th				8	5	4	9
	Th					5	4	9
Ones	T						4	9
	H							9
		0	7	6	8	5	4	9
	Numerals	76285497		13785648		258672090		

3. 4562 is written as = 4600.
37916 is written as = 37900.
41285 is written as = 41300.
30728 is written as = 30700.
So, 4600 + 37900 + 41300 + 30700
= **114500**

4. (a)

```
  ② ②①
 2067285
  916384
+1007285
 3990954
```

(b)

```
  ②①①①
  916728
 ①318285
+1007285
 2242298
```

5. (a)

```
 ③ 10 8 10 12
  4 0 9 1 2 8
- 3 7 8 2 5 6
  0 3 0 8 7 2
```

(b)

```
   9 10
  1 0 0 7 8 8 9 6
-   9 6 7 8 2 5
    9 1 1 1 0 7 1
```

6.

```
     15      12
  ④ 5 17 7 ② 14
  5 6 7 8 3 4
- 3 7 8 5 6 9
  1 8 9 2 6 5
```

7. (a) 139 × 500 = (139 × 5) × 100
= 695 × 100 = 695 00
So, 139 × 500 = **69500**

(b) 348 × 700 = (348 × 7) × 100
= 2436 × 100 = 2436 00
So, 348 × 700 = **243600**

(c) 916 × 2000 = (916 × 2) × 1000
= 1832 × 1000 = 1832 000
So, 916 × 2000 = **1832000**

8. (a) 225 × 36 × 15 = 225 × (36 × 15)
= 225 × 540 = **121500**

(b) 125 × 912 × 8 = 912 × (125 × 8)
= 912 × 1000 = **912000**

9.

```
   7 2 8 5
 × 4 1 9
-------
 6 5 5 6 5
 7 2 8 5 ×
2 9 1 4 0 × ×
3 0 5 2 4 1 5
```

10.

```
48 ) 6 4 8 9 5 4 7 ( 135198
   -48↓
   ---
     168
    -144↓
    ----
      249
     -240↓
     ----
        95
       -48↓
       ---
        474
       -432↓
       ----
         427
        -384
        ----
          43
```

quotient = 135198
remainder = 43

11. Factors of 108 = 1, 2, 3, 4, 6, 9, 12, 27, 54, 108.

12. Prime numbers 50 and 70 = 53, 59, 61, 67.

13.

```
106 ) 159 ( 1
      -106
      ----
        53
```

Now divide 256 by 53

```
53 ) 106 ( 2
     -106
     ----
       0
```

```
53 ) 265 ( 5
     -265
     ----
       0
```

HCF = 106, 159 and 265 is **53.**

14.

2	350, 300, 400, 500
2	175, 150, 200, 250
2	175, 75, 100, 125
2	175, 75, 50, 125
5	175, 75, 25, 125
5	35, 15, 5, 15
7	7, 3, 1, 3
3	1, 3, 1, 3
	1, 1, 1, 1

Hence, LCM = 2 × 2 × 2 × 2 × 5 × 5 × 5 × 7 × 3 = **8400**

15. Now, LCM = $\frac{\text{Product of two numbers}}{\text{LCM of two numbers}}$

$272\overline{)425}(1$
-272
$153\overline{)272}(1$
-153
$119\overline{)153}(1$
-119
$34\overline{)119}(3$
-102
$17\overline{)34}(2$
-34
0

HCF = 17

$= \frac{272 \times 425}{17} = 6800$

16. $\frac{2}{3}, \frac{11}{15}, \frac{13}{18}, \frac{4}{20}$

$\frac{(2\times60), (11\times12), (13\times10), (4\times9)}{180}$

$\frac{120}{180}, \frac{132}{180}, \frac{130}{180}, \frac{36}{180}$

$= \frac{36}{180} < \frac{120}{180} < \frac{130}{180} < \frac{132}{180}$

So, $\frac{4}{20} < \frac{2}{3} < \frac{13}{18} < \frac{11}{15}$

17. $3\frac{1}{4} + 2\frac{1}{6} - 1\frac{1}{8}$

$\frac{13}{4} + \frac{13}{6} - \frac{9}{8} = \frac{(13\times6)+(13\times4)-(9\times1)}{24}$

$= \frac{130-9}{24} = \frac{121}{24} = \mathbf{5\frac{1}{24}}$

18. (a) $4\frac{4}{5} \times 1\frac{1}{2} \times 3\frac{3}{4} = \frac{\cancel{24}^{6}}{\cancel{5}_{1}} \times \frac{3}{\cancel{2}_{1}} \times \frac{\cancel{15}^{3}}{\cancel{4}_{1}} = \mathbf{27}$

(b) $\frac{\cancel{13}}{\cancel{35}_{7}} \times \frac{\cancel{5}}{\cancel{39}_{3}} \times \frac{4}{11} = \mathbf{\frac{4}{231}}$

19. (a) $\frac{7}{15}$ by $\frac{21}{35}$

$= \frac{7}{\cancel{15}_{3}} \times \frac{\cancel{35}^{7}}{\cancel{21}_{3}}$

$= \frac{7}{9}$

(b) $25\frac{1}{6}$ by $5\frac{5}{12}$

$\frac{151}{6} \div \frac{65}{12}$

$= \frac{151}{6} \times \frac{\cancel{12}^{2}}{65}$

$= \frac{302}{65} = \mathbf{4\frac{42}{65}}$

20. (a) $\frac{16}{1000} = \mathbf{0.016}$

(b) $\frac{15}{250} = \frac{15\times4}{250\times4} = \frac{60}{1000} = \mathbf{0.060}$

(c) $\frac{119}{125} = \frac{119\times8}{125\times8} = \frac{952}{1000} = \mathbf{0.952}$

21. Total of two number

$$\begin{array}{r} {\scriptstyle (1)\ \ (1)(1)(1)(1)} \\ 1\,5\,1\,6\,3\,7\,8 \\ +\,3\,6\,0\,7\,8\,9\,4 \\ \hline 5\,1\,2\,4\,2\,7\,2 \end{array}$$

Third number =

$$\begin{array}{r} {\scriptstyle (11)(10)} \\ {\scriptstyle (4)(1)(0)(16)} \\ 7\,2\,5\,2\,1\,6\,2 \\ -\,5\,1\,2\,4\,2\,7\,2 \\ \hline 2\,1\,2\,7\,8\,9\,0 \end{array}$$

22. Cost of 1 LCD = ₹ 29990

Cost of 225 LCDs = 29990 × 225

= **6747750**

23. Required number is

(54 – 6), (63 – 6), (81 – 6), (96 – 6)

So, LCM is 48, 57, 75, 90

2	48, 57, 75, 90
2	24, 57, 75, 45
2	12, 57, 75, 45
2	6, 57, 75, 45
3	3, 57, 75, 45
5	1, 19, 25, 15
5	1, 19, 5, 3
3	1, 19, 1, 3
19	1, 19, 1, 1
	1, 1, 1, 1

LCM = 2 × 2 × 2 × 2 × 3 × 3 × 5 × 5 × 19
= **68400**

24. Quantity of Oil = 66l
Oil fill in small Container of capacity = 2 l
So, need containers = 66 ÷ 2 = **33**

25. Cloth need 15 shirts = 73.65 m
Cloth need 1 shirt = 73.65 ÷ 15 = **4.91m**

9. Simplification of Brackets

EXERCISE 9

1. $7\times6-3$ of $7+16\div2\times3+15$
$=7\times6-3\times7+16\div2\times3+15$
$=7\times6-3\times7+8\times3+15$
$=42-21+24+15$
$=42+24+15-21$
$=66+15-21$
$=81-21=\mathbf{60}$

2. $38\div19\times3-6\times18$ of $\frac{5}{6}+130$

$=38\div19\times3-6\times18\times\frac{5}{6}+130$

$=\cancel{38}^{2}\times\frac{1}{\cancel{19}}\times3-6\times\cancel{18}^{3}\times\frac{5}{\cancel{6}}+130$
$=2\times3-6\times3\times5+130$
$=6-90+130$
$=6+130-90$
$=136-90=\mathbf{46}$

3. $5\frac{1}{2}+\frac{1}{9}\times3\frac{3}{4}-5\frac{1}{3}\div1\frac{2}{6}$ of $1\frac{2}{3}$

$=\frac{11}{2}+\frac{1}{9}\times\frac{15}{4}-\frac{16}{3}\div\frac{\cancel{8}^{4}}{\cancel{6}_{3}}\times\frac{5}{3}$

$=\frac{11}{2}+\frac{1}{\cancel{9}_{3}}\times\frac{\cancel{15}^{5}}{4}-\frac{16}{3}\div\frac{20}{9}$

$=\frac{11}{2}+\frac{5}{12}-\frac{\cancel{16}^{4}}{\cancel{3}}\times\frac{\cancel{9}^{3}}{\cancel{20}_{5}}$

$=\frac{11}{2}+\frac{5}{12}-\frac{12}{5}$

$=\frac{(11\times30)+(5\times5)}{60}-(12\times12)$

$=\frac{330+25-144}{60}=\frac{211}{60}=\mathbf{3\frac{31}{60}}$

4. $21-[17+\{3+(7+9-15)\}]$
$=21-[17+\{3+(16-15)\}]$
$=21-[17+\{3+1\}]$
$=21-[17+4]$
$=21-21=\mathbf{0}$

5. $33\frac{1}{2}\div\frac{45}{46}\times\frac{6}{23}-5\times\frac{7}{14}+9$

$=\frac{67}{2}\div\frac{45}{46}\times\frac{6}{23}-5\times\frac{7}{14}+9$

$=\frac{67}{2}\times\frac{\cancel{46}^{2}}{\cancel{45}_{15}}\times\frac{\cancel{6}^{2}}{23}-5\times\frac{\cancel{7}^{1}}{\cancel{14}_{2}}+9$

$=\frac{67\times2}{15}-\frac{5}{2}+9=\frac{134}{15}-\frac{5}{2}+9$

$=\frac{(134\times2)-(5\times15)+9\times30}{30}$

$=\frac{268-75+270}{30}=\frac{493}{30}=\mathbf{15\frac{13}{30}}$

6. $2\frac{1}{3}$ of $\frac{1}{10}+2\div\left[2\times\left\{3-\left(1-\frac{1}{3}\right)\right\}\right]$

$=2\frac{1}{3}$ of $\frac{1}{10}+2\div\left[2\times\left\{\frac{(3\times3)-(2\times1)}{3}\right\}\right]$

$=2\frac{1}{3}$ of $\frac{1}{10}+2\div\left[2\times\frac{7}{3}\right]$

$=\frac{7}{3}$ of $\frac{1}{10}+2\div\frac{14}{3}$

$=\frac{7}{3}\times\frac{1}{10}+2\div\frac{14}{3}$

$=\frac{7}{30}+2\div\frac{14}{3}=\frac{7}{30}+\cancel{2}\times\frac{3}{\cancel{14}_{7}}$

$=\frac{7}{30}+\frac{3}{7}=\frac{(7\times7)+(3\times30)}{210}$

$=\frac{49+90}{210}=\mathbf{\frac{139}{210}}$

7. $148-[85\div17\times2+\{18$ of $2\div2-(4+10-7)\}]$
$=148-[85\div17\times2+\{18\times2\div2-7\}]$
$=148-[85\div17\times2+\{36\div2-7\}]$
$=148-[85\div17\times2+\{18-7\}]$

$= 148 - [85 \div 17 \times 2 + 11]$

$= 148 - [5 \times 2 + 11]$

$= 148 - 21 = \mathbf{127}$

8. $13 + \left[\frac{9}{2} - \left\{6 + \left(7 + 2 - 3\frac{1}{2} + 4\frac{1}{2}\right)\right\}\right]$

$= 13 + \left[\frac{9}{2} - \left\{6 + \left(9 - \frac{7}{2} + \frac{9}{2}\right)\right\}\right]$

$= 13 + \left[\frac{9}{2} - \left\{6 + \left(\frac{18 - 7 + 9}{2}\right)\right\}\right]$

$= 13 + \left[\frac{9}{2} - \{6 + 10\}\right]$

$= 13 + \left[\frac{9}{2} - \frac{16}{1}\right]$

$= 13 + \left[\frac{9 - 32}{2}\right] = \frac{13}{1} - \frac{23}{2}$

$= \frac{26 - 23}{2} = \frac{3}{2} = \mathbf{1\frac{1}{2}}$

9. $13 + \left[4\frac{2}{3} - \left\{4\frac{5}{3} \times \left(3 - \frac{1}{5} \div 18\right)\right\}\right]$

$= 13 + \left[\frac{14}{3} - \left\{\frac{17}{3} \times \left(3 - \frac{1}{5} \times \frac{1}{18}\right)\right\}\right]$

$= 13 + \left[\frac{14}{3} - \left\{\frac{17}{3} \times \left[\frac{270 - 1}{90}\right]\right\}\right]$

$= 13 + \left[\frac{14}{3} - \left\{\frac{17}{3} \times \frac{269}{90}\right\}\right]$

$= 13 + \left[\frac{14}{3} - \frac{4573}{270}\right]$

$= 13 + \left[\frac{(14 \times 90) - 4573}{270}\right]$

$= 13 + \left[\frac{1260 - 4573}{270}\right] = \frac{13}{1} - \frac{3313}{270}$

$= \frac{3510 - 3313}{270} = \mathbf{\frac{197}{270}}$

10. $35\frac{1}{3} - \left[4\frac{1}{2} - \left\{2\frac{4}{5} \times \left(1\frac{3}{10} - 2\frac{1}{2}\right)\right\} \div \frac{3}{20}\right]$

$= \frac{106}{3} - \left[\frac{9}{2} - \left\{\frac{14}{5} \times \left(\frac{13}{10} - \frac{5}{2}\right)\right\} \div \frac{3}{20}\right]$

$= \frac{106}{3} - \left[\frac{9}{2} - \left\{\frac{14}{5} \times \left(\frac{13 - 25}{10}\right)\right\} \div \frac{3}{20}\right]$

$= \frac{106}{3} - \left[\frac{9}{2} - \left\{\frac{14}{5} \times \left(-\frac{12}{10}\right)\right\} \div \frac{3}{20}\right]$

$= \frac{106}{3} - \left[\frac{9}{2} + \frac{168}{50} \div \frac{3}{20}\right]$

$= \frac{106}{3} - \left[\frac{9}{2} + \frac{\cancel{168}^{56}}{\cancel{50}} \times \frac{20}{3}\right]$

$= \frac{106}{3} - \left[\frac{9}{2} + \frac{112}{5}\right]$

$= \frac{106}{3} - \left[\frac{45 + 224}{10}\right] = \frac{106}{3} - \frac{269}{10}$

$= \frac{1060 - 807}{30} = \frac{253}{30} = \mathbf{8\frac{13}{30}}$

Multiple Choice Questions (MCQs)

1. (b) **2.** (a) **3.** (c) **4.** (b) **5.** (a)
6. (c) **7.** (a) **8.** (b) **9.** (b) **10.** (c)

10. Average

EXERCISE 10

1. Sum of first ten numbers

$= 1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10$

$= 55$

So, Average $= \frac{\text{Sum of observations}}{\text{Total observation}}$

$= \frac{55}{10} = \mathbf{5.5}$

2. Sum of first ten even numbers

$= 2 + 4 + 6 + 8 + 10 + 12 + 14 + 16 + 18 + 20$

$= \mathbf{110}$

So, Average $= \frac{\text{Sum of observations}}{\text{Total observation}}$

$= \frac{110}{10} = \mathbf{11}$

3. 12 prime numbers

$= 2, 3, 5, 7, 11, 13, 17, 19, 23, 29,$

31, 37

Sum of first 12 prime numbers

$= 2 + 3 + 5 + 7 + 11 + 13 + 17 + 19 + 23 + 29 + 31 + 37$

$= \mathbf{197}$

So, Average $= \dfrac{\text{Sum of observations}}{\text{Total observation}}$

$= \dfrac{197}{12} = \mathbf{16.416}$

4. Sum of first 8 multiples of 4

$= 4 + 8 + 12 + 16 + 20 + 24 + 28 + 32$

$= 144$

So, Average $= \dfrac{\text{Sum of observations}}{\text{Total observation}}$

$= \dfrac{144}{8} = \mathbf{18}$

5. Sum of numbers

$= 115 + 216 + 317 + 418 + 514$

$= 1580$

So, Average $= \dfrac{\text{Sum of observations}}{\text{Total observation}}$

$= \dfrac{1580}{5} = \mathbf{316}$

6. Sum of numbers

$= 24.4 + 11.6 + 20.5 + 15.5 + 20.5$

$= 92.5$

So, Average $= \dfrac{\text{Sum of observations}}{\text{Total observation}}$

$= \dfrac{92.5}{5} = \mathbf{18.5}$

7. Sum of numbers

$= 2\dfrac{1}{2} + 1\dfrac{1}{4} + \dfrac{3}{8} + \dfrac{9}{8} + 2\dfrac{3}{4}$

$= \dfrac{5}{2} + \dfrac{5}{4} + \dfrac{3}{8} + \dfrac{9}{8} + \dfrac{11}{4}$

$= \dfrac{(5 \times 4) + (5 \times 2) + (3 + 9) + (11 \times 2)}{8}$

$= \dfrac{20 + 10 + 3 + 9 + 22}{8} = \dfrac{64}{8} = \mathbf{8}$

So, Average $= \dfrac{\text{Sum of observations}}{\text{Total observation}}$

$= \dfrac{8}{5} = \mathbf{1\dfrac{3}{5}}$

8. Sum of scored $= 53 + 67 + 72 + 49 + 84$

$= 325$

Number of tests $= 5$

So, Average $= \dfrac{\text{Sum of score}}{\text{Number of tests}}$

$= \dfrac{325}{5} = \mathbf{65}$

9. Heights of childrens

$= 124 + 118 + 124 + 123 + 128 + 127$

$= 744$ cm

Number of childrens $= 6$

So, Average $= \dfrac{\text{Sum of childrens}}{\text{Number of children}}$

$= \dfrac{744}{6} = \mathbf{124\ cm}$

10. Average of four numbers $= 72$

Two of numbers $= 68, 70$

So, Average $= \dfrac{68 + 70 + x_3 + x_4}{4}$

$72 \times 4 = 68 + 70 + x_3 + x_4$

$x_3 + x_4 = 288 - 138$

$x_3 + x_4 = 150$

Average of two numbers

$= \dfrac{x_3 + x_4}{2} = \dfrac{150}{2} = \mathbf{75}$

11. Average weight of section B $= 70$ kg

Total weight of section B $= 70\ \text{kg} \times 45$

$= 3150$ kg

Average weight of section C $= 60$ kg

Total weight of section C $= 60\ \text{kg} \times 35$

$= 2100$kg

Total weight of both sections

$= 3150 + 2100$

$= 5250$ kg

Total students of both sections

$= 45 + 35$

$= 80$

Average of weight of both sections

$= \dfrac{5250}{80}$

$= \mathbf{65.625\ kg}$

12. Average fee of three students $= ₹\ 425$

Total fee of three students $= ₹\ 425 \times 3$

$= ₹\ 1275$

Average fee of two students = ₹ 400
Total fee of two students = ₹ 400 × 2
= ₹ 800
So, fee of third student = ₹ 1275 – ₹ 800
= ₹ 475

13. Kanu travelled total distance
= 162 km + 223 km
= 385 km
Total time is taken = 3 + 4 = 7 hours
So, average per hour = $\frac{385}{7}$ = **55km**

14. Average weight of 12 students a teacher
= 45 kg
Total weight of students and teacher
= (45 × 13) = 585 kg
Weight of teacher = 66 kg
So, weight of 12 student
= 585 – 66 = 519kg
Average weight of students = $\frac{519}{12}$ = 43.25 kg

11. Time, Speed and Distance

EXERCISE 11

1. Convert into m/s :

(a) 54 km/hr
$^{3}\cancel{54} \times \frac{5}{\cancel{18}} = 15$ m/s

(b) 90 km/hr
$^{5}\cancel{90} \times \frac{5}{\cancel{18}} = 25$ m/s

(c) 126 km/hr
$^{7}\cancel{126} \times \frac{5}{\cancel{18}} = 35$ m/s

(d) 18 km/hr
$\cancel{18} \times \frac{5}{\cancel{18}} = 5$ m/s

2. Convert into km/hr :

(a) 10 m/s
$^{2}\cancel{10} \times \frac{18}{\cancel{5}} =$ **36 km/hr**

(b) 35 m/s
$^{7}\cancel{35} \times \frac{18}{\cancel{5}} =$ **126 km/hr**

(c) 50 m/s
$^{10}\cancel{50} \times \frac{18}{\cancel{5}} =$ **180 km/hr**

(d) 65 m/s
$^{13}\cancel{65} \times \frac{18}{\cancel{5}} =$ **234 km/hr**

3. Distance covered = 630 km
Time taken = 7 hours
Speed = $\frac{\text{Distance}}{\text{Time}} = \frac{630}{7}$
= 90 km/hr

4. Distance cover = 150 m
Time taken = 5 sec.
Speed = $\frac{\text{Distance}}{\text{Time}} = \frac{150}{5}$
= **30 m/s**

5. Distance covered = 3081 km
Time taken = $6\frac{1}{2}$ hours = $\frac{13}{2}$ hr.
Speed = $\frac{\text{Distance}}{\text{Time}} = \frac{3081 \times 2}{13}$
= $\frac{6162}{13}$ = **474 km/hr**

6. Speed = 56 km/hr
Time taken = 6 hours
Distance = speed × time
Distance = 56 × 6 = **336 km**

7. Speed = 80 km/hr
Time taken = $3\frac{1}{2}$ hours = $\frac{7}{2}$ hours
Distance = speed × Time
Distance = $^{40}\cancel{80} \times \frac{7}{\cancel{2}} =$ **280 km**

8. Distance covered = 720 km
Speed = 40 km/hr, Time = ?
So, Time = $\frac{\text{Distance}}{\text{Speed}}$
Time = $\frac{720}{40}$ = **18 hours**

9. Monti could cover in first hour = 3 km
So, he covered last two hours
= 15 – 3 = 12km
So, his average speed in last two hours

$$= \frac{12}{2} \text{ km} = 6 \text{ km}$$

10. Total distance $= 4.5 \times 2 = 9$ km

Total time $= (12 + 16) = 28$ minutes

$$= \frac{\cancel{28}^{7}}{\cancel{60}_{15}} \text{ hr} \times \frac{7}{5} \text{ hr}$$

$$\text{Average speed} = \frac{9 \times 15}{7}$$

$$= \frac{90}{7} = 12\frac{6}{7} \text{ km /hr}$$

11. A car covers $= 630$ km

Speed $= 120$ km/hr

$$\text{Time} = \frac{\text{Distance}}{\text{Speed}}$$

$$\text{Time} = \frac{\overset{21}{\cancel{630}}}{\underset{4}{\cancel{120}}} = \frac{21}{4} = 5\frac{1}{4} \text{ hr}$$

A bus covers $= 450$ km

$$\text{Time} = 5\frac{1}{4} \text{ hr} = \frac{21}{4} \text{ hr}$$

$$\text{Speed} = \frac{\text{Distance}}{\text{Time}}$$

$$= \frac{\overset{150}{\cancel{450}} \times 4}{\underset{7}{\cancel{21}}} = \frac{600}{7}$$

$$= 85\frac{5}{7} \text{ km/hr}$$

12. Total distance $= 880$ km

Total time $=$ 7:20 am to 7:20 pm

$=$ (7:20 am to 12:00 noon)

$+$ (12:00 noon to 7:20 pm)

$= 4$hr 40min $+ 7$ hr 20 min

$= 12$hr

$$\text{Average speed} = \frac{\overset{220}{\cancel{880}}}{\underset{3}{\cancel{12}}} = 73\frac{1}{3} \text{ km/hr}$$

12. Percentage

EXERCISE 12.1

1. Express each of the following as a fraction :

(a) $73\% = \frac{73}{100}$

(b) $14\% = \frac{14}{100} = \frac{7}{50}$

(c) $48\% = \frac{48}{100} = \frac{12}{25}$

(d) $122\% = \frac{122}{100} = \frac{61}{50}$

(e) $4\frac{3}{10}\% = \frac{43}{10 \times 100} = \frac{43}{1000}$

(f) $13\frac{1}{2}\% = \frac{27}{2 \times 100} = \frac{27}{200}$

(g) $9\frac{1}{8}\% = \frac{73}{8 \times 100} = \frac{73}{800}$

(h) $1\frac{19}{25}\% = \frac{44}{25 \times 100} = \frac{44}{2500} = \frac{11}{625}$

2. Express each of the following as a decimal :

(a) $28\% = \frac{28}{100} = 0.28$

(b) $1.5\% = \frac{1.5}{100} = \frac{15}{100 \times 10}$

$= \frac{15}{1000} = 0.015$

(c) $22.35\% = \frac{22.35}{100} = \frac{2235}{100 \times 100}$

$= \frac{2235}{10000} = 0.2235$

(d) $15.22\% = \frac{15.22}{100} = \frac{1522}{100 \times 100}$

$= \frac{1522}{10000} = 0.1522$

(e) $14.5\% = \frac{14.5}{100} = \frac{145}{10 \times 100}$

$= \frac{145}{1000} = 0.145$

(f) $438.5\% = \frac{438.5}{100} = \frac{4385}{100 \times 10}$

$= \frac{4385}{1000} = 0.4385$

(g) $150\% = \frac{150}{100} = 1.50$

(h) $66.66\% = \frac{66.66}{100} = \frac{6666}{100 \times 100}$

$= \frac{6666}{10000} = 0.6666$

3. Express each of the following as a percentage :

(a) $\frac{3}{4} = \frac{3}{4} \times 100 = 75\%$

(b) $1\frac{2}{3} = \frac{5}{3} \times 100 = \frac{500}{3} = 166\frac{2}{3}$

(c) $\frac{9}{10} = \frac{9}{10} \times 100 = 90\%$

(d) $\frac{26}{5} = \frac{26}{\cancel{5}} \times \cancel{100}^{20} = 520\%$

(e) $7\frac{14}{25} = \frac{189}{\cancel{25}} \times \cancel{100}^{4} = 756\%$

(f) $3\frac{2}{10} = \frac{32}{\cancel{10}} \times \cancel{100}^{10} = 320\%$

(g) $9\frac{2}{8} = \frac{74}{8} \times 100 = \frac{7400}{8} = 925\%$

(h) $\frac{13}{250} = \frac{13}{\cancel{250}_{5}} \times \cancel{100}^{2} = \frac{26}{5} = 5\frac{1}{5}\%$

4. Express each of the following as a percentage :

(a) $0.125 = 0.125 \times 100 = 12.5\%$

(b) $2.015 = 2.015 \times 100 = 201.5\%$

(c) $5.105 = 5.105 \times 100 = 510.5\%$

(d) $5.8 = 5.8 \times 100 = 580\%$

(e) $2.05 = 2.05 \times 100 = 205\%$

(f) $4.97 = 4.97 \times 100 = 497\%$

(g) $20.1 = 20.1 \times 100 = 2010\%$

(h) $0.04 = 0.04 \times 100 = 4\%$

EXERCISE 12.2

1. Find the value of :

(a) 40% of 60

$= \frac{40}{100} \times 60 = 24$

(b) 33% of 125

$= \frac{33}{\cancel{100}_{4}} \times \cancel{125}^{5} = \frac{132}{4} = 41\frac{1}{4}$

(c) $66\frac{2}{3}\%$ of 600

$= \frac{200}{\cancel{3} \times 100} \times \cancel{600}^{2} = 400$

(d) 80% of 500

$= \frac{80}{100} \times 500 = 400$

(e) 27% of 900

$= \frac{27}{100} \times 900 = 243$

(f) 12.5% of 100

$= \frac{125}{100} \times 100 = 12.5$

2. Find the value of :

(a) 19% of 300 kg

$= \frac{19}{100} \times 300 = 57$ kg

(b) 50% of 7 km

$= \frac{\cancel{50}}{\cancel{100}_{2}} \times 7 = \frac{7}{2} = 3.5$ km

(c) 25% of 250 l

$= \frac{25}{\cancel{100}_{2}} \times \cancel{250}^{5} = \frac{125}{2} = 66\frac{1}{2}$ l

(d) 30% of 700 g

$= \frac{30}{100} \times 700 = 210$ g

(e) 15% of 170 cm

$= \frac{\cancel{15}^{3}}{\cancel{100}_{2}} \times 170 = \frac{51}{2} = 25\frac{1}{2}$ cm

(f) 75% of ₹ 450

$= \frac{75}{\cancel{100}_{2}} \times \cancel{450}^{9} = \frac{675}{2} = ₹\ 337\frac{1}{2}$

3. Find what percentage of :

(a) 35 is 5

$\% = \frac{\cancel{5}}{\cancel{35}_{7}} \times 100 = \frac{100}{7} = 14\frac{2}{7}\%$

(b) 100 is 75

$$\% = \frac{\cancel{75}}{\cancel{100}} \times \cancel{100} = 75\%$$

(c) 45 is 9

$$\% = \frac{\cancel{9}}{\cancel{45}_{9}} \times \cancel{100}^{20} = 20\%$$

(d) 85 is 17

$$\% = \frac{\cancel{17}}{\cancel{85}_{5}} \times \cancel{100}^{20} = 20\%$$

(e) 150 is 25

$$\% = \frac{\cancel{25}}{\cancel{150}_{6}} \times \cancel{100}^{50} = \frac{50}{3} = 16\frac{2}{3}\%$$

(f) 84 is 21

$$\% = \frac{\cancel{21}}{\cancel{84}_{4}} \times \cancel{100}^{25} = 25\%$$

4. Find what percentage is :

(a) 70 in 140

$$= \frac{\cancel{70}}{\cancel{140}_{2}} \times \cancel{100}^{50} = 50\%$$

(b) 80 in 200

$$= \frac{\cancel{80}^{40}}{\cancel{200}} \times 100 = 40\%$$

(c) 40 cm in 4 m (400 cm)

$$= \frac{\cancel{40}^{10}}{\cancel{400}} \times 100 = 10\%$$

(d) 90 in 180 m

$$= \frac{\cancel{90}}{\cancel{180}_{2}} \times \cancel{100}^{50} = 50\%$$

(e) 25 p in ₹ 3 (300p)

$$= \frac{25}{300} \times 100 = \frac{25}{3} = 8\frac{1}{3}\%$$

(f) 140g in 480 g

$$= \frac{\cancel{140}^{7}}{\cancel{480}_{\cancel{24}\ 6} \times \cancel{100}^{25}} = \frac{175}{6} = 29\frac{1}{6}\%$$

5. 25% is = 400

1 % is $= \frac{400}{25}$

100% is $\frac{400 \times \cancel{100}^{4}}{\cancel{25}} = 1600$

6. $16\frac{2}{3}$ or $\frac{50}{3}$% is $= 33\frac{1}{3}$ or $\frac{100}{3}$

1% is $= \frac{100 \times 3}{3 \times 50}$

100% is $= \frac{100 \times \cancel{3} \times \cancel{10}^{2}}{\cancel{3} \times \cancel{50}} = 200$

7. $15\frac{4}{5}$ or $\frac{79}{5}$% is $= 71\frac{1}{10}$ or $\frac{711}{10}$

1% is $= \frac{711 \times 5}{10 \times 79}$

100% is $= \frac{\cancel{711}^{9} \times 5 \times 10\cancel{0}}{1\cancel{0} \times \cancel{79}} = 450$

EXERCISE 12.3

1. Population of town = 7224520

Number of female = 40%

Number of male = 100 − 40 = 60%

So, 60% of 7224520

or $\frac{7224520 \times 60}{100} = 4334712$

2. Earning of Mr Sharma = ₹ 15600

Saving = 25% of ₹ 15600

$$= \frac{25}{100} \times 15600 = ₹\ 3900$$

Amount he spent = ₹ 15600 − ₹ 3900

= ₹ **11700**

3. Total apples = 15000

Apples are rotten = 8% of 15000

$$= \frac{8}{100} \times 15000 = 1200$$

So, apples are in good condition

= (15000 − 1200) = **13800**

4. Anu get marks = 255

Total marks = 300

$$\text{So, } \% = \frac{\cancel{255}^{85}}{\cancel{300}} \times \cancel{100} = 85\%$$

5. Sunita get marks in maths = 22

Total marks = 30

$$\text{So, } \% = \frac{22}{30} \times 100$$

$$= \frac{220}{3} = 73\frac{1}{3}\%$$

Sunita get marks in science = 17

Total marks = 25

$$\% = \frac{17}{\cancel{25}} \times \cancel{100}^{4} = 68\%$$

Sunita get better % in maths.

And, $73.33\% - 68\% = \mathbf{5.33\%}$

6. Sudha was absent for = 6 days

Working days = 24

So attendance = 24 – 6 = 18 days

attendance % $= \frac{\cancel{18}^{3}}{\cancel{24}_{4}} \times \cancel{100}^{25} = \mathbf{75\%}$

7. Cost of a cycle = ₹ 2200

Increase price = 3% by ₹ 2200

$= \frac{3}{1\cancel{00}} \times 22\cancel{00} =$ ₹ 66

So, new cost of cycle = ₹ (2200 + 66)

= ₹ **2266**

8. Carbon = 15%

Zinc = 25%

Copper (100 – 15 – 25) = 60%

So, carbon = 15% of 60

$= \frac{\cancel{15}^{3}}{\cancel{100}_{3}} \times \cancel{60}^{3} = 9$ kg

Zinc = 25% of 60

$= \frac{\cancel{25}}{\cancel{100}_{4}} \times \cancel{60}^{15} = 15$ kg

Copper = 60% of 60kg

$= \frac{6\cancel{0} \times 6\cancel{0}}{1\cancel{00}} = \mathbf{36kg}$

13. Profit and Loss

EXERCISE 13.1

1. See in answersheet.

2. C.P. of a necklace = ₹ 3925

S.P. of necklace = ₹ 4005

Since, S.P. is more than C.P.

So, it make a profit.

Profit = S.P. – C.P.

= ₹ (4005 – 3925) = ₹ **80**

3. S.P. of computer = ₹ 29500

loss = ₹ 4250

So, C.P. = S.P. + Loss

= ₹ 29500 + ₹ 4250 = ₹ **33750**

4. C.P. of toys = ₹ 3400

S.P. of toys = ₹ 55 × 68 = ₹ 3748

S.P. > C.P. So, she gain profit.

Profit = S.P. – C.P.

= ₹ 3748 – ₹ 3400 = ₹ **348**

5. C.P. = ₹ 15600

Loss = ₹ 1200

S.P. = C.P. – Loss

= ₹ 15600 – ₹ 1200 = ₹ **14400**

6. S.P. of a table = ₹ 3520

Loss = ₹ 170

So, C.P. = S.P. + Loss

= ₹ (3520 + 170) = ₹ **3690**

7. C.P. of an item = ₹ 4093

Profit = ₹ 97

S.P. = C.P. + Profit

= ₹ (4093 + 97) = ₹ **4190**

8. Profit on selling of mangoes

= ₹ 6 × 100 = 600

S.P of mangoes = C.P. + Profit

= ₹ 2400 + ₹ 600

= ₹ **3000**

EXERCISE 13.2

1. Find Profit percent or loss percent :

(a) S.P. = ₹ 900, C.P. = ₹ 1050

Loss = C.P. – S.P.

= 1050 – 900 = ₹ 150

Loss % $= \frac{\text{Loss}}{\text{C.P.}} \times 100$

$= \frac{\cancel{150}}{\cancel{1050}_{7}} \times 10\cancel{0} = \frac{100}{7} = \mathbf{14\frac{2}{7}\%}$

(b) S.P. = ₹ 1080, C.P. = ₹ 1100

Loss = C.P. – S.P.

= 1100 – 1080 = ₹ 20

Loss % $= \frac{20}{1080} \times 100$

$= \frac{2000}{1080} = \mathbf{1.85\%}$

(c) S.P. = ₹ 3000, C.P. = ₹ 2800

Profit = S.P. – C.P.

= 3000 – 2800 = ₹ 200

$$\text{Profit \%} = \frac{\text{Profit}}{\text{C.P.}} \times 100$$

$$= \frac{200}{2800} \times 100 = \mathbf{7.14\%}$$

(d) S.P. = ₹ 2400, C.P. = ₹ 2200

Profit = S.P. – C.P.

= ₹ (2400 – 2200) = ₹ 200

$$\text{Profit \%} = \frac{\text{Profit}}{\text{C.P.}} \times 100$$

$$= \frac{200}{2200} \times 100 = \mathbf{9.09\%}$$

2. C.P. = ₹ 7200, S.P. = ₹ 7500

Profit = S.P. – C.P.

= 7500 – 7200 = ₹ 300

$$\text{Profit \%} = \frac{\text{Profit}}{\text{C.P.}} \times 100$$

$$= \frac{300}{7200} \times 100 = \mathbf{4.16\%}$$

3. C.P. of sofa = ₹ 12840

S.P. of sofa = ₹ 10950

Loss = C.P. – S.P.

= 12840 – 10950 = ₹ 1890

$$\text{Loss \%} = \frac{\text{Loss}}{\text{C.P.}} \times 100$$

$$= \frac{1890}{12840} \times 100 = \mathbf{14.72\%}$$

4. C.P. of a carpet = ₹ 12500

Loss % = 15%

Loss = 15% of ₹ 12500

$$= ₹\left(\frac{15}{100} \times 12500\right) = ₹\ 1875$$

S.P. of carpet = C.P. – Loss

= 12500 – 1875 = ₹ **10625**

5. C.P. of a mixer = ₹ 1090

Profit % = 10%

Profit = 10% of ₹ 1090

$$= \frac{10}{100} \times 1090 = ₹\ 109$$

S.P. of mixer = C.P. + Profit

= 1090 + 109 = ₹ **1199**

6. C.P. of 10 fans = ₹ 18500

C.P. of 1 fan = ₹ 18500 ÷ 10 = ₹ 1850

S.P. of 1 fan = ₹ 1950

Profit = S.P. – C.P. = ₹ 1950 – ₹ 1850

= ₹ 100

$$\text{Profit \%} = \frac{\text{Profit}}{\text{C.P.}} \times 100$$

$$= \frac{100}{1850} \times 100 = 5.41\%$$

7. C.P. of 40 dozen eggs = ₹ 12 × 400

= ₹ 480

Selling price of 36 dozen eggs

= ₹ 18 × 36 = ₹ 648

Profit = ₹ 648 – ₹ 480 = ₹ 168

So, profit % = $\frac{168}{480} \times 100 = \mathbf{35\%}$

8. C.P. of two horses

= ₹ 12500 + ₹ 24600 = ₹ 37100

S.P. of two horses

= ₹ 15000 + ₹ 25000 = ₹ 40000

Profit = ₹ 40000 – ₹ 37100

= ₹ 2900

$$\text{Profit \%} = \frac{2900}{37100} \times 100 = 7.82\%$$

9. C.P.of both cows

= ₹ (2300 + 2100) = ₹ 4400

S.P. both cows = ₹ 5000

So, profit = ₹ (5000 – 4400) = ₹ 600

$$\text{Profit \%} = \frac{600}{4400} \times 100 = \mathbf{13.64\%}$$

10. C.P. of LCD = ₹ 19850

S.P. of LCD = ₹ 21327

Profit = S.P. – C.P.

= ₹ (21327 – 19850) = ₹ 1477

$$\text{Profit \%} = \frac{1477}{19850} \times 100 = \mathbf{7.44\%}$$

14. Simple Interest

EXERCISE 14

1. Find out S.I. and amount :

(a) ₹ 100 for 2 years at 4% p.a.

P = ₹ 100, R = 4% p.a., T = 2 years

$$S.I. = \frac{P \times R \times T}{100}$$

$$= \frac{1\cancel{00} \times 4 \times 2}{1\cancel{00}} = ₹\ 8$$

Amount = P + S.I.

= 100 + 8 = ₹ **108**

(b) ₹ 7200 for $2\frac{1}{2}$ years at $5\frac{1}{2}$% p.a.

P = ₹ 7200, $R = \frac{11}{2}$ P.a.%,

$T = \frac{11}{2}$ years

$$S.I. = \frac{P \times R \times T}{100}$$

$$= \frac{^{18}\cancel{36}\cancel{7200} \times 5 \times 11}{\cancel{2} \times \cancel{2} \times \cancel{100}} = ₹\ 990$$

Amount = P + S.I.

= 7200 + 990 = ₹ **8190**

(c) ₹ 1500 for 3 years at 8.25% p.a.

P = ₹ 1500, R = 8.25 % p.a.,

T = 3 years,

$$S.I. = \frac{P \times R \times T}{100}$$

$$= \frac{1\cancel{500} \times 8.25 \times 3}{1\cancel{00}} = ₹\ 371.25$$

Amount = P + S.I.

= 1500 + 371.25 = ₹ **1871.25**

(d) ₹ 500 for $1\frac{1}{2}$ years at 8% p.a.

P = ₹ 5000, R = 8% p.a. $T = \frac{3}{2}$ years,

$$S.I. = \frac{P \times R \times T}{100}$$

$$= \frac{5\cancel{000} \times \cancel{8}^{4} \times 3}{\cancel{2} \times 1\cancel{00}} = ₹\ 600$$

Amount = P + S.I.

= 5000 + 600 = ₹ 5600

2. P = ₹ 6000, R = 5% p.a, T = 4 years

$$S.I. = \frac{P \times R \times T}{100}$$

$$= \frac{6\cancel{000} \times 5 \times 4}{1\cancel{00}} = ₹\ 1200$$

Amount = P + S.I.

= ₹ (6000 + 1200) = ₹ **7200**

3. P = ₹ 40000, R = 5% p.a.,

$T = 5\frac{1}{2} = \frac{11}{2}$ years

$$S.I. = \frac{P \times R \times T}{100}$$

$$= \frac{^{200}\cancel{40000} \times 5 \times 11}{\cancel{2} \times 1\cancel{00}} = ₹\ 11000$$

Amount = S.I. + P

= ₹ (40000 + 11000)

= ₹ **51000**

4. P = ₹ 14000, R = 15%p.a., T = 4 years

$$S.I. = \frac{P \times R \times T}{100}$$

$$= \frac{14\cancel{000} \times 15 \times 4}{1\cancel{00}} = ₹\ 8400$$

Amount = P + S.I.

= ₹ (14000 + 8400) = ₹ 22400

So, cost of horse = ₹ 22400 – ₹ 16480

= ₹ **5920**

5. I case :

P = ₹ 13000, R = 7.5%p.a., T = 2 years

$$= \frac{13\cancel{000} \times 7.5 \times 2}{1\cancel{00}} = ₹\ 1950$$

Amount = S.I. + P

= ₹ (13000 + 1950) = ₹ 14950

II case :

P = ₹ 13000, R = 8%p.a., T = 2 years

$$= \frac{13000 \times 8 \times 2}{100} = ₹\ 2080$$

Amount = S.I. + P

= ₹ (13000 + 2080) = ₹ 15080

So, earning of Mohini

= ₹ (15080 – 14950) = ₹ **130**

6. P = ₹ 12000, A = ₹ 14160, R = 6%, T = ?

S.I. = A – P

= ₹ (1416 – 12000) = ₹ 2160

$$T = \frac{S.I. \times 100}{P \times R}$$

$$T = \frac{2160 \times 100}{12000 \times 6} = \textbf{3 years}$$

7. P = ₹ 12000, S.I. = ₹ 1200,
T = 4 years, R = ?

$$R = \frac{S.I \times 100}{P \times T} = \frac{\cancel{1200} \times \cancel{100}^{5}}{\cancel{12000} \times \cancel{4}_{2}} = \frac{5}{2}$$

$$= 2\frac{1}{2}\% \text{ p.a.}$$

8. P = ₹ 1200, A = ₹ 1350,
T = 2 years, R = ?

S.I. = A − P

= ₹ (1350 − 1200) = ₹ 150

$$R = \frac{S.I \times 100}{P \times T} \quad \frac{^{25}\cancel{150} \times 100}{_{2}\cancel{1200} \times 2} = \frac{25}{4}$$

= 6.25% p.a

9. Reetika will pay

P = ₹ 8000, R = 12% p.a, T = 4 years

$$S.I. = \frac{8000 \times 12 \times 4}{100} = ₹\ 3840$$

Rahul will pay

P = ₹ 9000, R = 9% p.a., T = 4 years

$$S.I. = \frac{9000 \times 9 \times 4}{100} = ₹\ 3240$$

So, Reetika will pay more. She will pay more

= ₹ (3840 − 3240) = ₹ **600**

10. Rakesh will pay :

P = ₹ 10000, R = 8% p.a., T = 5 years

$$S.I. = \frac{10000 \times 10 \times 5}{100} = ₹\ 5000$$

Shaukat will pay

P = ₹ 12000, R = 8% p.a., T = 5 years

$$S.I. = \frac{12000 \times 8 \times 5}{100} = ₹\ 4800$$

So, Rakesh will pay more.
He will pay more = ₹ 5000 − ₹ 4800

= ₹ 200

Multiple Choice Questions (MCQs)

1. (b) **2.** (b) **3.** (a) **4.** (a) **5.** (b)
6. (a) **7.** (a) **8.** (b) **9.** (a) **10.** (b)

Comulative Revision-III (Page no. 118)

1. Simplify :

$21 - 17 + \{3 \div 5\}$

$$21 - 17 + \frac{3}{5} = \frac{125 - 88}{5} = 3\frac{2}{5}$$

2. Find the average of first 12 prime numbers :

Sum of first 12 prime numbers

= 2 + 3 + 5 + 7 + 11 + 12 + 17 + 19 + 23 + 29 + 31 + 37 = 197

So, Average $= \frac{\text{Sum of observations}}{\text{Total observation}}$

$$= \frac{176}{12} = \mathbf{16.416}$$

3. Convert the following :

(a) $_{3}\cancel{54} \times \frac{5}{\cancel{18}} = 15$ m/s

(b) $^{2}\cancel{10} \times \frac{18}{\cancel{5}} = 36$ km/hr

(c) $^{4}\cancel{72} \times \frac{5}{\cancel{16}} = 20$ m/s

(d) $^{15}\cancel{75} \times \frac{18}{\cancel{5}} = 270$ km/hr

4. Find the value of

(a) $\frac{27}{100} \times ₹\ 900 = ₹\ 243$

(b) $_{2}\frac{35}{\cancel{100}} \times \cancel{450}^{9} = \frac{315}{2} = 156\frac{3}{2}$

5. Find out simple Interest and amount of ₹ 15000 for 3 years at the rate of $9\frac{1}{3}\%$ p.a.

P = ₹ 155, $R = 9\frac{1}{3}\% = \frac{28}{3}\%$ p.a., T = 3 years.

$$S.I = \frac{P \times R \times T}{100} = {}_{5}\frac{\cancel{1500} \times 28}{\cancel{100} \times \cancel{3}} = ₹\ 140$$

Amount = P + S.I = 1500 + 140 = **1640**

15. Lines and Angles

EXERCISE 15.1

1. (a) $\angle MNP = 120°$ (b) $\angle ABC = 240°$
(c) $\angle XYZ = 90°$ (d) $\angle DEF = 60°$
(e) $\angle PQR = 80°$ (f) $\angle XYZ = 220°$

2. (a) $\angle ABC = 110°$ obtuse
(b) $\angle PQR = 90°$ (right)
(c) $\angle DEF = 60°$ (acute)
(d) $\angle AOB = 180°$ (straignt)
(e) $\angle XOX = 360°$ (complete)
(f) $\angle ABC = 110°$ (obtuse)

3. Acute angle = 60°, 45°, 75°, 32°
Right angle = 90°
Obtuse angle = 145°
Straight angle = 180°
Reflex angles = 190°, 285°, 225°
Complete angle = 360°

4. See in answersheet.

EXERCISE 15.2

1. See in answersheet.
2. see in answersheet.
3. Find the values of unknown angles :
   (a) $x = 15°$ (opposite angle)
   (b) $y = 170°$ (opposite angle)
4. Choose the pairs of complementary and supplementary angles :
   (a) 30°, 60°
   $= 30° + 60° = 90°$
   So, these are complementary pairs.
   (b) 170°, 10°
   $= 170 + 10 = 180°$
   So, these are supplementary pairs.
   (c) 61°, 29°
   $= 61° + 29° = 90°$
   So, these are complementary pairs.
   (d) 120°, 60°
   $= 120° + 60° = 180°$
   So, these are complementary pairs.
   (e) 111°, 69°
   $= 111° + 69° = 180°$
   So, these are supplementary pairs.
   (f) 27°, 63°
   $= 27° + 63° = 90°$
   So, these are complementary pairs.
5. Write the complement of each of the following angles :
   (a) $35° \Rightarrow 90° - 35° = 55°$
   (b) $70° \Rightarrow 90° - 70° = 20°$
   (c) $88° \Rightarrow 90° - 88° = 2°$
   (d) $39° \Rightarrow 90° - 39° = 51°$
   (e) $11° \Rightarrow 90° - 11° = 79°$
   (f) $23° \Rightarrow 90° - 23° = 67°$
   (g) $68° \Rightarrow 90° - 68° = 22°$
   (h) $59° \Rightarrow 90° - 59° = 31°$
6. Write the supplement of each of the following angles :
   (a) $77° \Rightarrow 180° - 77° = 103°$
   (b) $108° \Rightarrow 180° - 108° = 72°$
   (c) $113° \Rightarrow 180° - 113° = 67°$
   (d) $85° \Rightarrow 180° - 85° = 95°$
   (e) $100° \Rightarrow 180° - 100° = 70°$
   (f) $25° \Rightarrow 180° - 25° = 155°$
   (g) $173° \Rightarrow 180° - 173° = 7°$
   (h) $153° \Rightarrow 180° - 153° = 27°$

16. Triangles

EXERCISE 16.1

1. See in answersheet.
2. (a) The triangle measures all three different sides. So, it is a scalene triangle.
   (b) The triangle measures all three equal sides. So, it is an equilateral triangle.
   (c) The triangle measures all three different sides. So, it is a scalene triangle.
   (d) The triangle measures all three different side. So, it is a scalene triangle.
   (e) The triangle measures all three different side. So, it is a scalene triangle.
   (f) The triangle measures two equal sides. So, it is an isosceles triangle.
3. (a) The triangle measures all three angles less than 90°. So, it is an acute angle triangle.
   (b) The triangle measures all three angles less than 90°. So, it is an acute-angled triangle.
   (c) The triangle measures one obtuse angle. So, it is an obtused-angled triangle.
   (d) The triangle measures one obtuse angle. So, it is an obtused-angled triangle.

(e) The triangle measures one right angle. So, it is a right-angled triangle.

(f) The triangle measures one obtuse angle. So it is a right-angled triangle.

4. Is a triangle possible with following given sides?

(a) 7 cm, 8 cm, 10 cm

Sum of length of two smaller sides

$= 7 + 8 = 15$ cm

Which is greater than the length of third side.

Since, 15 cm > 10 cm, So triangle is possible.

(b) 25 cm, 15 cm, 10 cm

Sum of length of two smaller sides

$= 15 + 10 = 25$ cm

Which is equal than the length of third side.

Since, 25 cm = 25 cm. So triangle is not possible.

(c) 5 cm, 3 cm, 8 cm

Sum of length of two smaller sides

$= 5 + 3 = 8$ cm

Which is equal than the length of third side.

Since, 8 cm = 8 cm. So triangle is not possible.

(d) 12 cm, 13 cm, 5 cm

Sum of length of two smaller sides

$= 12 + 5 = 17$ cm

Which is greater than the length of third side.

Since, 17 cm > 13 cm. So triangle is possible.

5. Is a triangle possible with following given angles?

(a) Sum of angles $= 30° + 80° + 70°$
$= 180°$. So, triangle is possible.

(b) Sum of angles $= 70° + 70° + 40°$
$= 180°$. So, triangle is possible.

(c) Sum of angles $= 110° + 40° + 70°$
$= 220°$. So triangle is not possible.

(d) Sum of angles $= 90° + 40° + 60°$
$= 190°$. So, triangle is not possible.

6. Sum of two angles of a triangle

$= 40° + 75° = 115°$

So, measure of third angle

$= 180° - 115° = 65°$

7. Sum of two angles of a triangle

$= 60° + 110° = 170°$

So, measure of third angle

$= 180° - 170° = 10°$

8. Two equal angles of an isosceles triangles

$= 50° + 50° = 100°$

So, measure of third angle

$= 180° - 100° = 80°$

9. Sum of two equal angles of an isosceles triangle

$= 180° - 90° = 90°$

So, measure of one equal angle

$= \frac{90°}{2} = 45°$

10. Sum of right angle and another angle

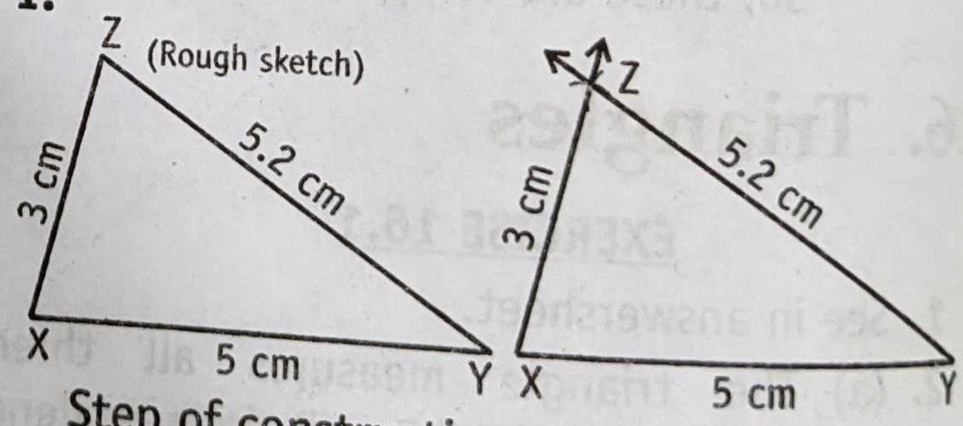
$= 90° + 35° = 90° + 35° = 125°$

So, measure of third angle

$= 180° - 125° = 55°$

EXERCISE 16.2

1.



Step of construction :

(1) Draw a line segment XY = 5 cm

(2) With X as center, draw an arc of radius 3 cm, with compass.

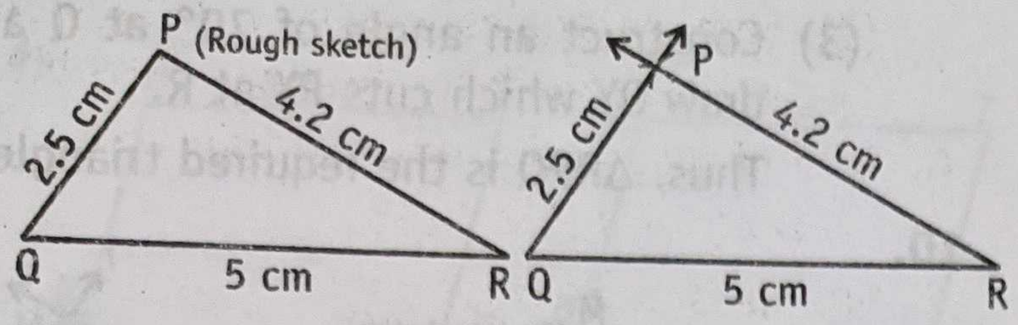
(3) With Y as center, draw an arc of radius 5.2 cm with compass which cut previous arc at Z.

(4) Join Z to Y and X.

Thus, ΔXYZ is the required triangle.

2. (1) Draw a line segment QR = 5 cm

(2) With Q as center draw an arc of radius 2.5 cm with compass.

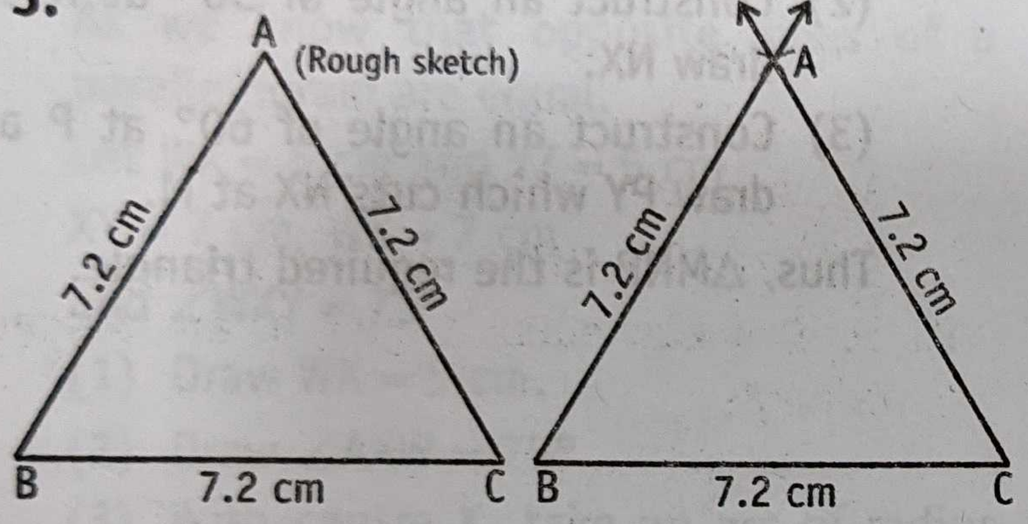


(3) With R as center, draw an arc of radius 4.2 cm with compass which cut previous arc at P.

(4) Join P to Q and R.

Thus, ΔPQR is required triangle.

3.



(1) Draw a line segment BC = 7.2 cm.

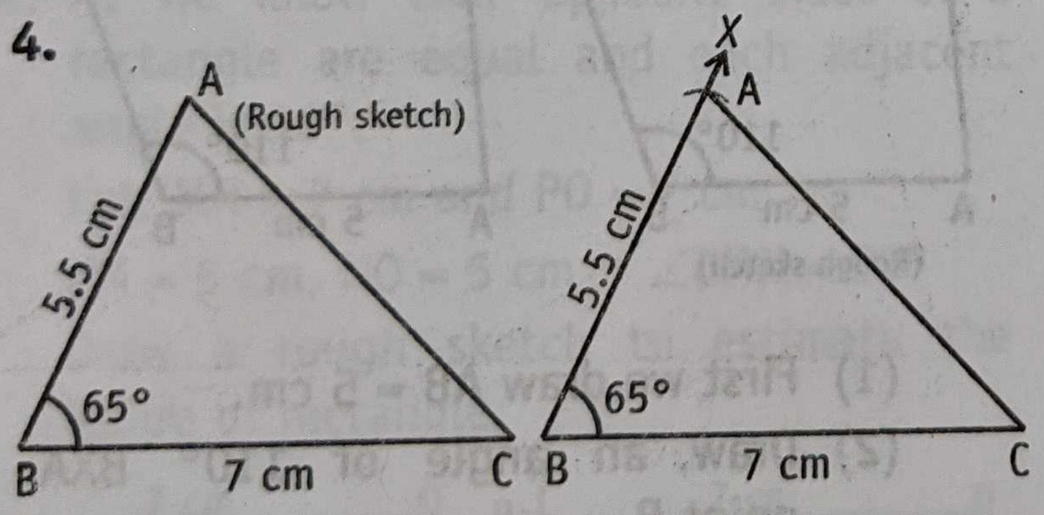
(2) With B as center, draw an arc of radius 7.2 cm with compass.

(3) With C as center, draw an arc of radius 7.2 cm with compass. Which cut previous arc at A.

(4) Join A to B and C.

Thus, this is an equilateral triangle.

4.



(1) Draw a line segment BC = 7 cm

(2) On point B, draw an angle 65° with protractor.

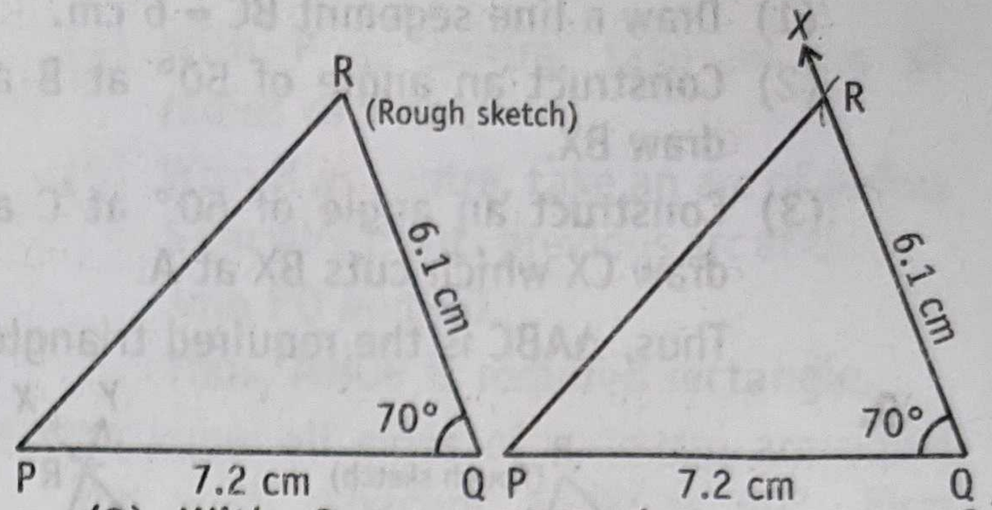
(3) With B as center, draw an arc of radius 5.5 cm which cuts BX at A.

(4) Join A to C.

Thus, ΔABC is the required triangle.

5. (1) Draw a line of segment PQ = 7.2 cm.

(2) On poin Q, draw an angle of 70° with protractor.

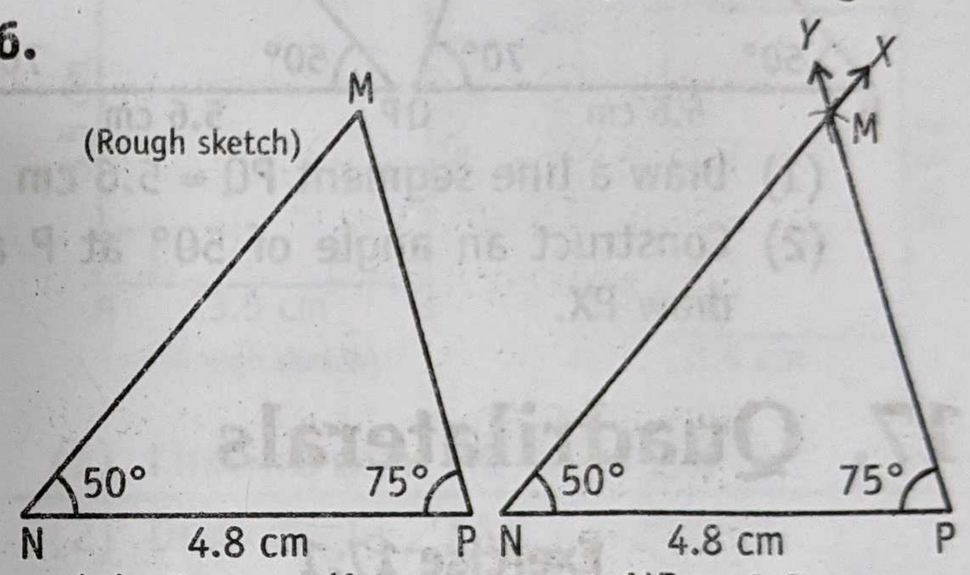


(3) With Q as center, draw an arc of radius 6.1 cm which cut QX at R.

(4) Join R to P.

Thus ΔRPQ is the required triangle.

6.



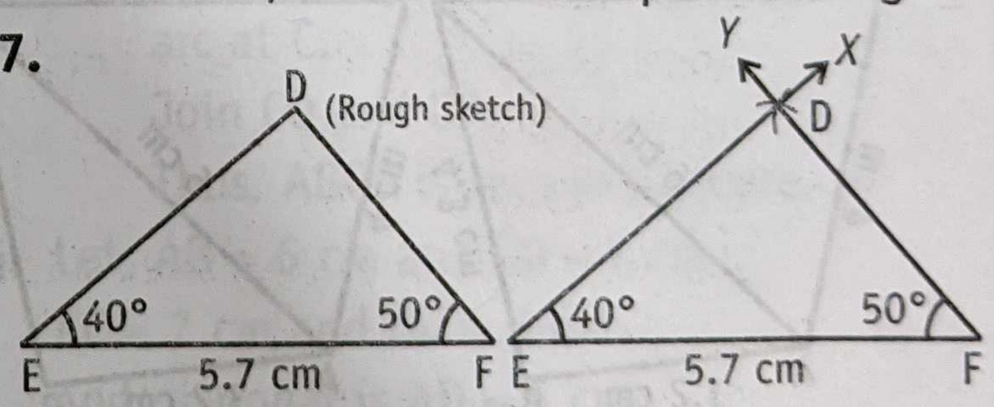
(1) Draw a line segment NP = 4.8 cm.

(2) Construct an angle of 50° at N and draw NX.

(3) Construct an angle of 75° at P and draw Y which cuts NX at M.

Thus, ΔMNP is the required triangle.

7.



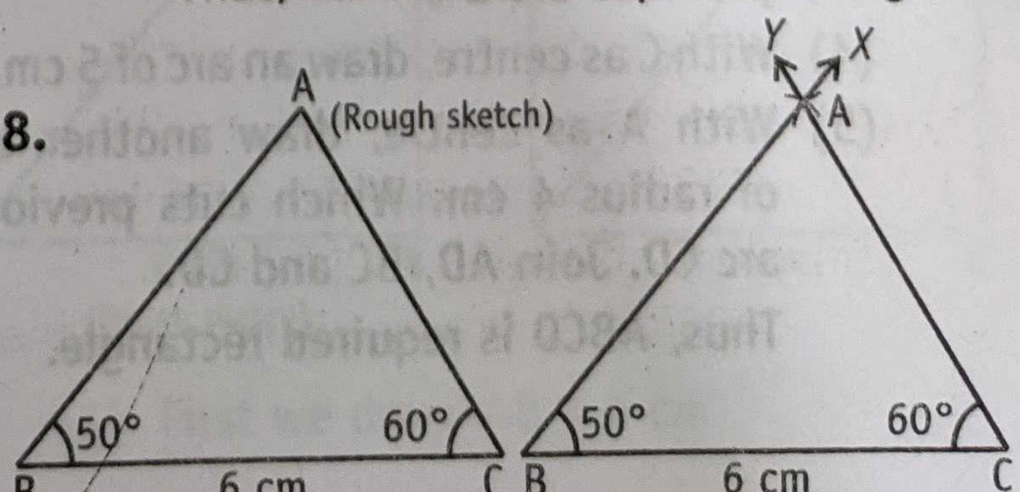
(1) Draw a line segment EF = 5.7 cm.

(2) Construct an angle of 40° at E and draw EX.

(3) Construct an angle of 50° at F and draw FY which cuts EX at D.

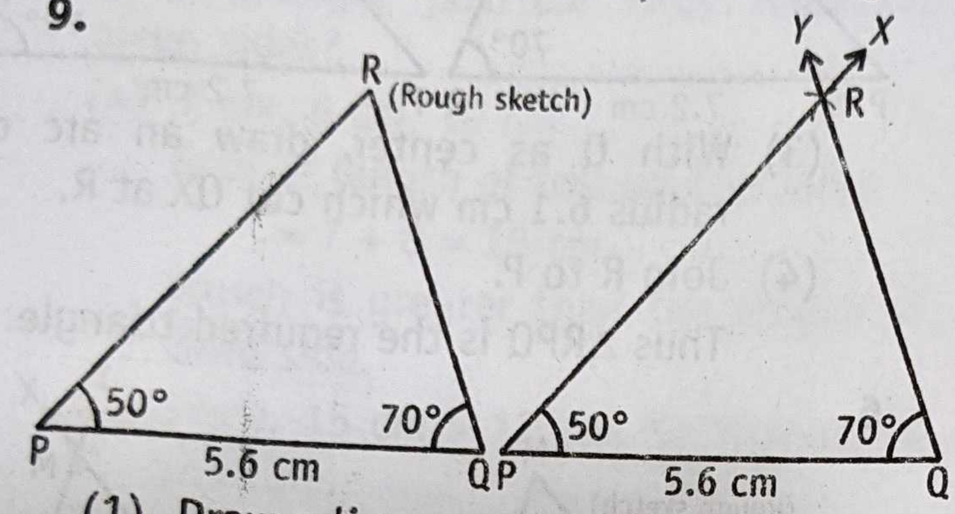
Thus, ΔDEF is the required triangle.

8.



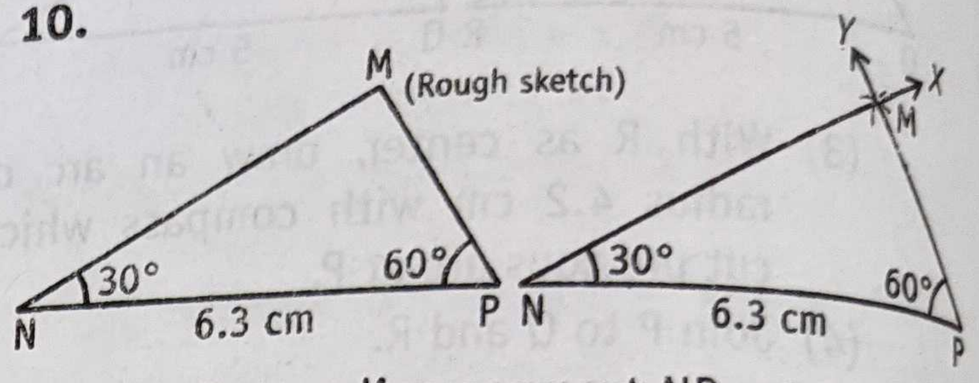
(1) Draw a line segemnt BC = 6 cm.
(2) Construct an angle of 50° at B and draw BX.
(3) Construct an angle of 60° at C and draw CX which cuts BX at A.
Thus, ΔABC is the required triangle.

9.



(1) Draw a line segment PQ = 5.6 cm
(2) Construct an angle of 50° at P and draw PX.
(3) Construct an angle of 70° at Q and draw QY which cuts PX at R.
Thus, ΔRPQ is the required triangle.

10.



(1) Draw a line segment NP = 6.3 cm.
(2) Construct an angle of 30° at N and draw NX.
(3) Construct an angle of 60° at P and draw PY which cuts NX at M.
Thus, ΔMNP is the required triangle.

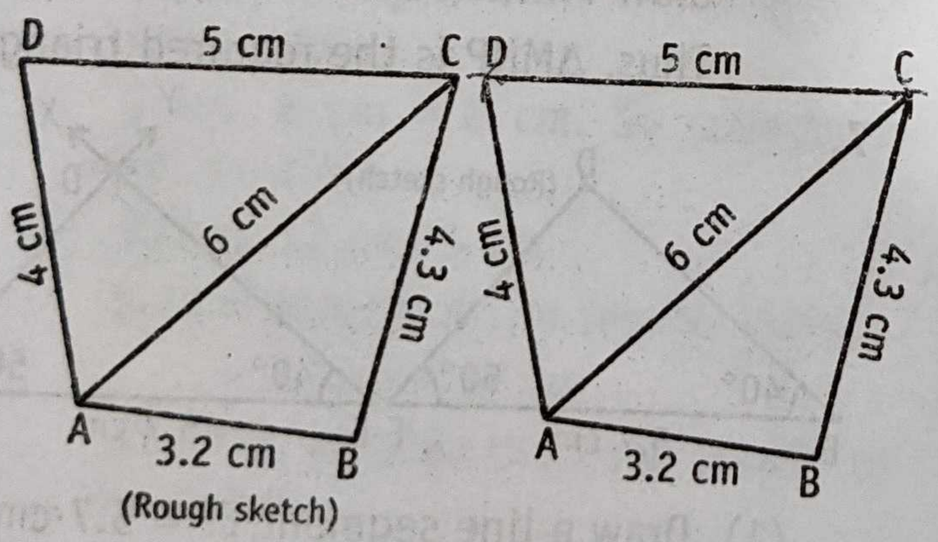
17. Quadrilaterals

Exercise 17.1

See in answersheet.

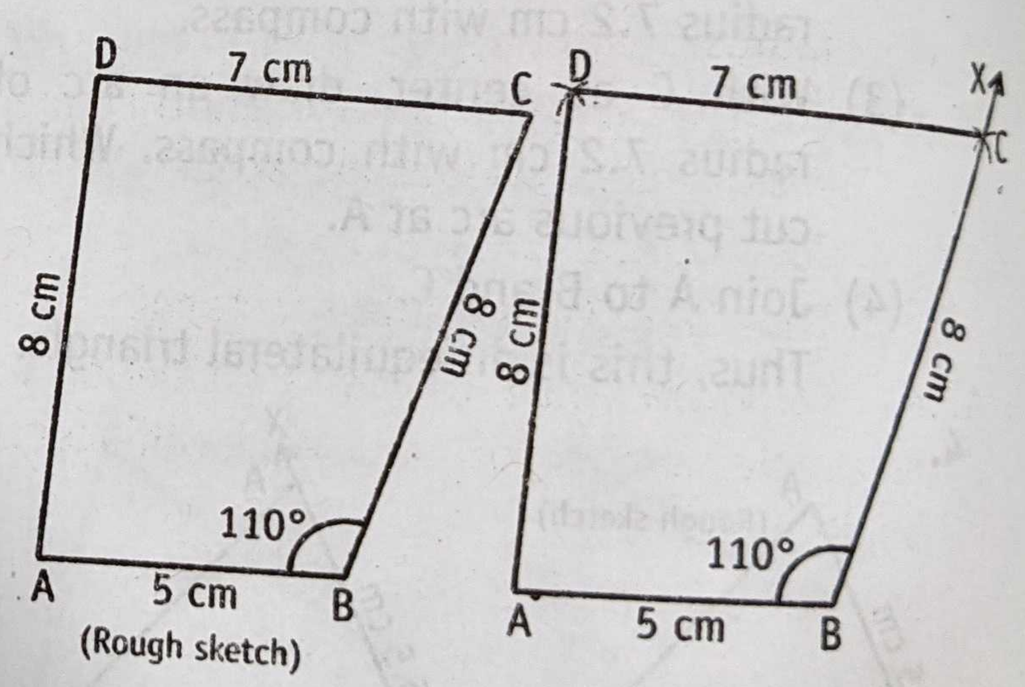
EXERCISE 17.2

1. Step of construction :
(1) First we draw AB = 3.2 cm.



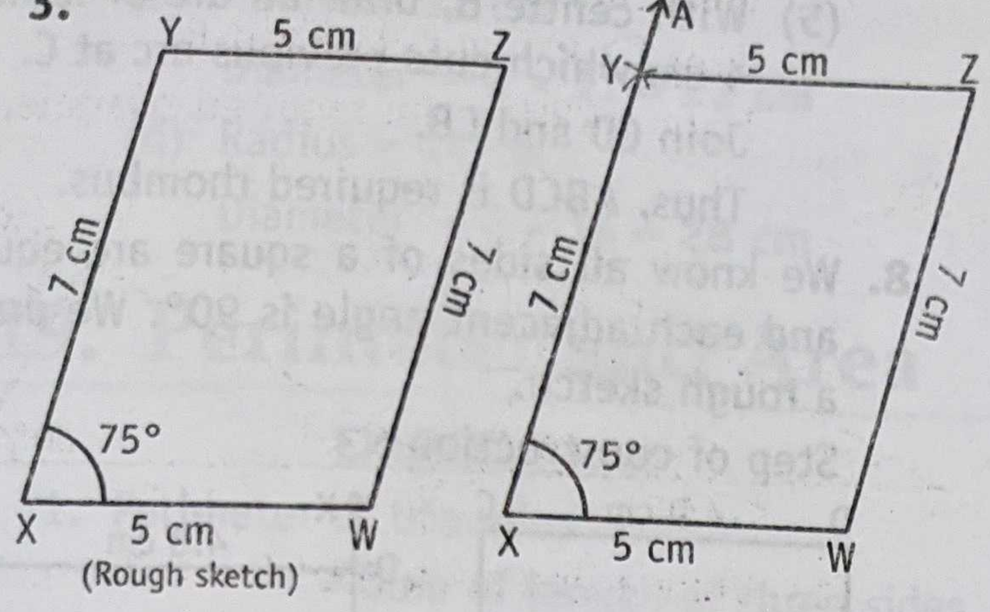
(2) With A as center draw an arc of radius 6 cm.
(3) With B as center draw another arc of radius BC 4.3 cm, which cuts previous arc a C
(4) With C as centre, draw an arc of 5 cm.
(5) With A as centre, draw another arc of radius 4 cm. Which cuts previous arc CD. Join AD, BC and CD.
Thus, ABCD is required rectangle.

2.



(1) First we draw AB = 5 cm.
(2) Draw an angle of 110° BXA at point B.
(3) Take an arc of radius 8 cm on BX.
(4) With centre C take an arc of radius 7cm.
(5) With centre A, take another arc of radius 8cm which cuts previous arc at D.
(6) Join AD and CD.
Thus, ABCD is required rectangle.

3.



As we know that opposite sides of a parallelogram are equal.

Let WX = 5 cm and YZ = 5 cm

XY = 7 cm, WZ = 7 cm

and $\angle WXY = 75°$

(1) Draw WX = 5 cm.

(2) Draw $\angle AXW = 75°$

(3) With centre X, take an arc of radius 7 cm on AX which cuts it at Y.

(4) With Y as centre, take an arc of radius 5 cm.

(5) With W as centre, take another arc which cuts previous arc at Z.

Join YZ and XY.

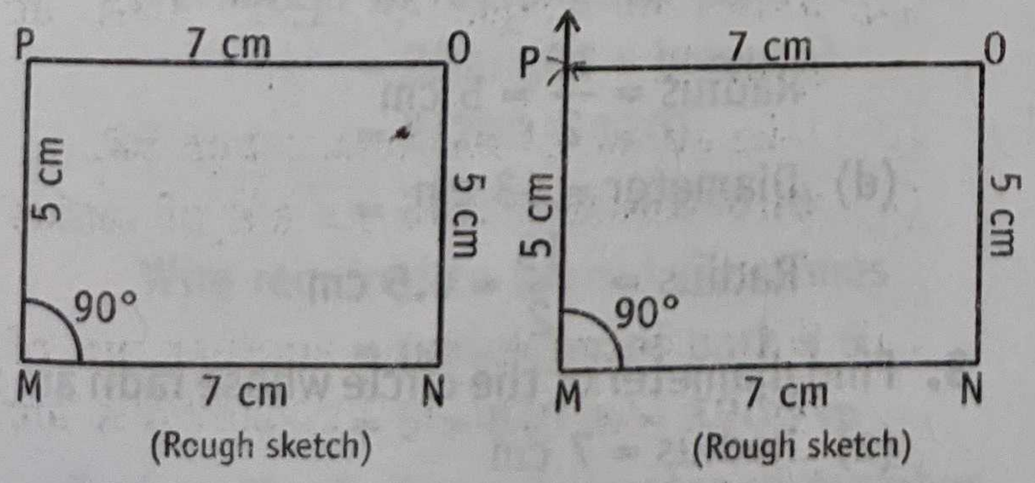
Thus, WXYZ is required rectangle.

4. As we know that opposite sides of a rectangle are equal and each adjacent angle is 90°.

Let, MN = 7 cm and PO = 7 cm

PM = 5 cm, NO = 5 cm $\angle PMN = 90°$

Draw a rough sketch to estimate the figure of rectangle.



(1) Draw MN = 7 cm

(2) Draw $\angle XMN = 90°$

(3) With centre M, take an arc of radius 5 cm which cuts XM at P.

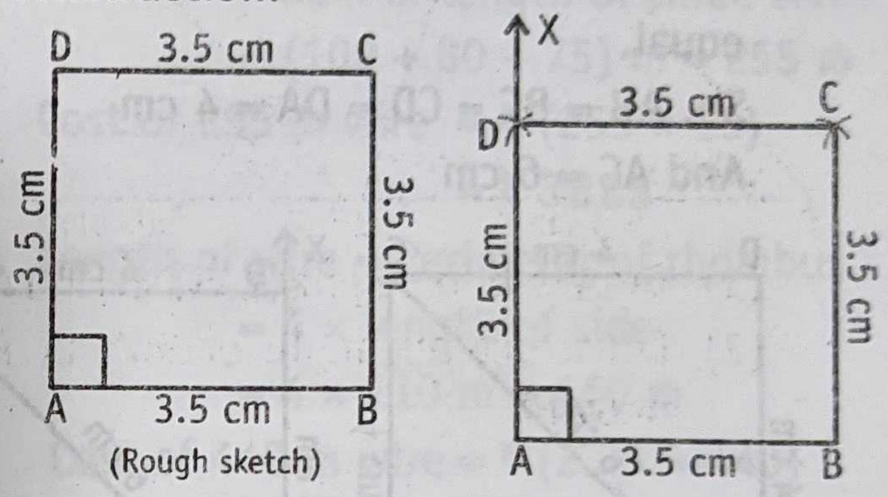
(4) With P as centre, take an arc of radius of 7 cm.

(5) With N as centre, take an arc of radius 5 cm which cuts previous arc at O.

Join PO and NO.

Thus, MNOP is required rectangle.

5. We know all sides of a square are equal and each adjacent angle is 90°. First draw a rough sketch steps of construction:



(1) First we draw AB = 3.5 cm

(2) Draw angle $\angle XAB = 90°$

(3) With centre A, draw an arc of radius 3.5 cm which cuts XA at D.

(4) With centre D, draw an arc of radius 3.5 cm.

(5) With centre B, draw another arc of radius 3.5 cm which cuts previous arc at C.

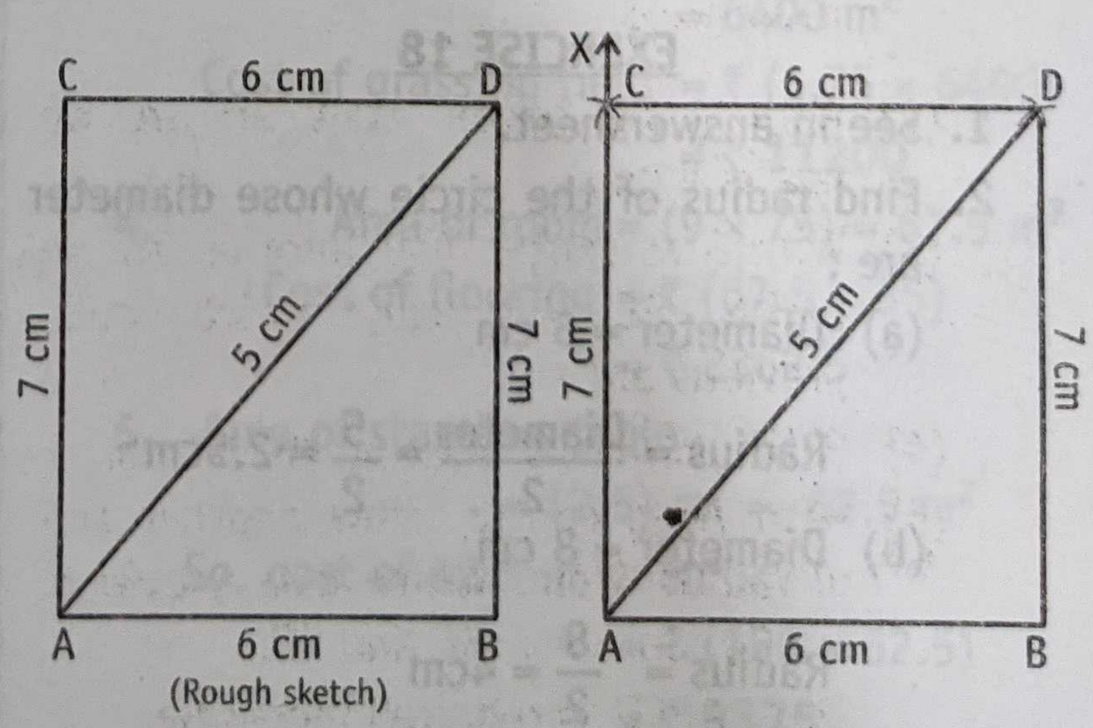
Join CD and CB.

Thus, ABCD is required square.

6. Let, AB = 6 cm and CD = 6 cm

AC = 7 cm and BD = 6 cm

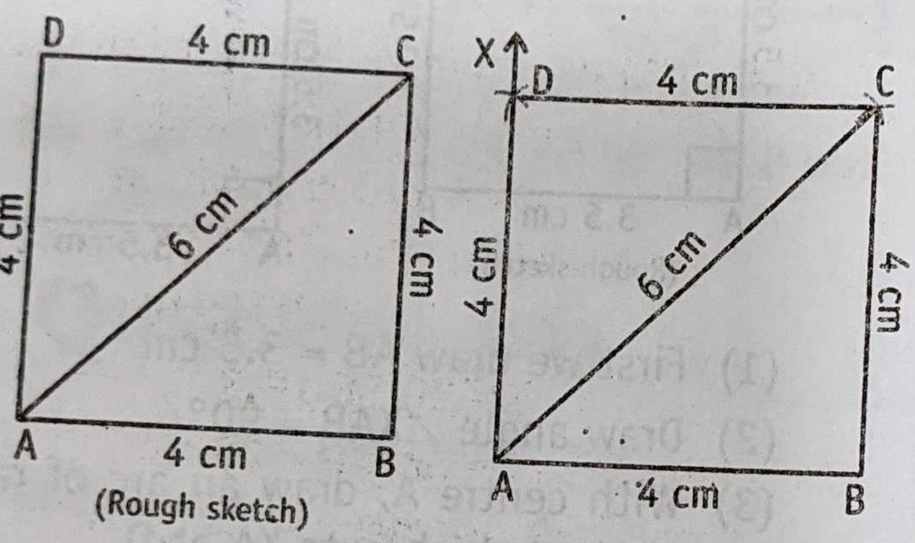
and diagonal is AD = 5 cm



(1) First we draw, AB = 6 cm

(2) Draw diagonal AD = 5 cm
(3) With centre A, take an arc of radius 7 cm on XA which cuts it at C.
(4) With C as centre, take an arc of radius 6 cm.
(5) With B as centre, take another arc which cuts previous arc at D.
Join CD and AC.
Thus, ABCD is requared perallelogram.

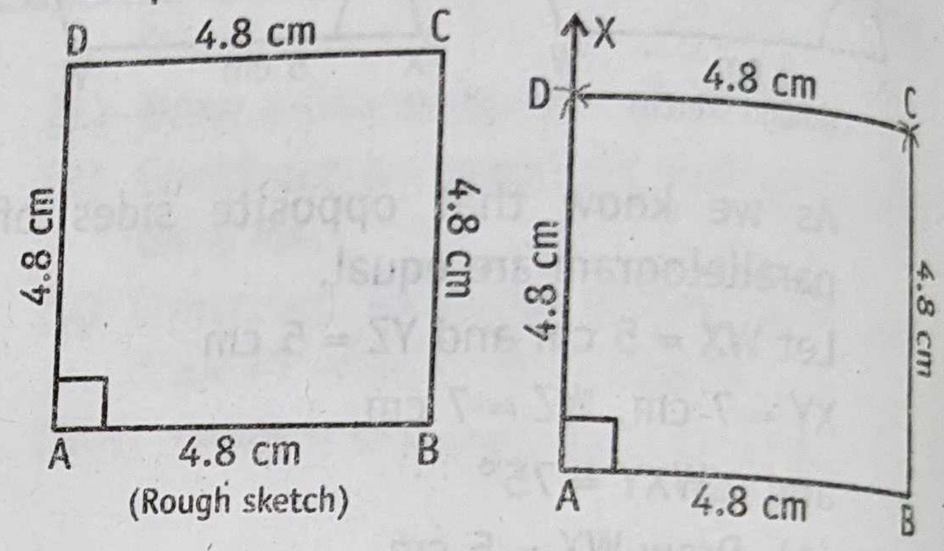
7. We know in a rhombus all four sides are equal.
So, AB = BC = CD = DA = 4 cm
And AC = 6 cm



(Rough sketch)

(1) Draw AB = 4 cm
(2) With A as centre, draw an arc of radius AC = 6 cm
(3) With centre A, draw an arc of radius 4 cm which cuts XA at D.
(4) With centre D, draw an arc of radius 4 cm.
(5) With centre B, draw an arc of radius 4 cm which cuts previous arc at C.
Join CD and CB.
Thus, ABCD is required rhombus.

8. We know all sides of a square arc equal and each adjacent angle is 90°. We draw a rough sketch.
Step of construction :



(Rough sketch)

(1) Draw AB = 4.8 cm
(2) Draw ∠XAB = 90°
(3) With centre A, draw an arc of radius 4.8 cm which cuts XA at D.
(4) With centre D, draw an arc of radius 4.8 cm.
(5) With centre B, draw another arc of radius 4.8 cm which cuts previous arc at C.
Join CD and CB.
Thus, ABCD is required square.

18. Circle

EXERCISE 18

1. See in answersheet.
2. Find radius of the circle whose diameter are :
(a) Diameter = 5 cm

$$\text{Radius} = \frac{\text{Diameter}}{2} = \frac{5}{2} = 2.5\text{cm}$$

(b) Diameter = 8 cm

$$\text{Radius} = \frac{8}{2} = 4\text{cm}$$

(c) Diameter = 10 cm

$$\text{Radius} = \frac{10}{2} = 5 \text{ cm}$$

(d) Diameter = 13 cm

$$\text{Radius} = \frac{13}{2} = 6.5 \text{ cm}$$

3. Find diameter of the circle whose radii are :
(a) Radius = 7 cm
Diameter = 2 × Radius
= 2 × 7 = **14 cm**
(b) Radius = 10 cm
Diameter = 2 × 10 = **20 cm**

(c) Radius = 11 cm

Diameter = 2 × 11 = **22 cm**

(d) Radius = 14 cm

Diameter = 2 × 14 = **28 cm**

19. Perimeter and Area

EXERCISE 19.1

1. Perimeter of triangles

= Sum of length of three sides

= (70 + 85 + 65) cm = **220 cm**

2. Length of wire

= Perimeter of rectangular park

Perimeter of rectangular park

= 2(length + breadth)

= 2 (80 + 70) m

= 2(150) m = **300 m**

Cost of 300 m wire = ₹ (300 × 4.50)

= ₹ **1350.00**

3. Perimeter of square

= 4 × length of one side

= 4 × 60 m = **240 m**

4. Length of field = 180 m

Breadth of field = 120 m

So, perimeter of rectangle field

= 2(length + breadth)

= 2(180 + 120) m

= 2(300) m = 600 m

Boy walks 3 times around the park.

So, he covers 600 × 3 = **1800 m**

5. Length = 200 m, Breadth = 120 m

Perimeter of rectangular park

= 2(length + breadth)

= 2(200 + 120)

= 2(320) m = **640 m**

Wire required to fenced five times

= perimeter of park × 5

= 5 × 640 m = **3200 m**

6. Length of wire = Perimeter of rhombus

= 4 × length of side

= 4 × 105 m = **420 m**

Cost of 420 m wire = ₹ (13.60 × 420)

= ₹ **5712**

7. Perimeter of triangular

= Sum of length of three sides

= (100 + 80 + 75) m = 255 m

Cost of 255 m wire = ₹ (255 × 15)

= ₹ **3825**

8. Length of wire = Perimeter of rhombus

= 4 × length of side

= 4 × 110 m = 440 m

Cost of 440 m wire = ₹ (2.75 × 440)

= ₹ **1210**

4. Do it yourself.

Multiple Choice Questions (MCQs)

1. (a) **2.** (a) **3.** (b) **4.** (b) **5.** (c)
6. (a) **7.** (c) **8.** (b) **9.** (c) **10.** (c)

EXERCISE 19.3

1. Length of rectangle = 20 cm

Breadth of rectangle = 15.5 cm

So, area of rectangle = length × breadth

= (20 × 15.5) cm^2

= 310.0 cm^2 = **310 cm^2**

2. Area of rectangle park = 350 m^2

Length of rectangle park = 35 m

$$\text{Breadth} = \frac{\text{Area}}{\text{Length}} = \frac{350}{35} = 10 \text{ m}$$

3. Length of side of field = 80 m

Area of square park = $(side)^2$

= $(80)^2$ m^2

= 6400 m^2

Cost of grassing field = ₹ (1.75 × 6400)

= ₹ **11200**

4. Area of room = (9 × 75) = 67.5 m^2

Cost of flooring = ₹ (67.5 × 35)

= ₹ 2362.5

5. Area of standing table

= (2.5) m^2 = 62.5 m^2

So, cost of 62.5 m wood

= ₹ (150 × 62.5)

= ₹ **9375**

6. Perimeter of square field = 800 m

Area of field = $(200\text{m})^2 = 40000\ \text{m}^2$

Side of field = $\frac{800\text{m}}{4} = 200\ \text{m}$

Cost of grassing = ₹ (40000 × 1.5)

= ₹ 60000

Breadth of field = $\frac{960}{2} - 300 = 180\ \text{m}$

7. Perimeter of a field = 960 m

Length = 300 m

Area of field = 300 × 180

= 54000 m^2

Cost of levelling = ₹ (54000 × 1.05)

= ₹ **56700**

8. Perimeter of garden = 800 m

Breadth = 180 m

So, length of garden = $\frac{800}{2} - 180$

= 220 m

Area of ground = 200 × 180

= 36000 m^2

Cost of grassing = ₹ (36000 × 2.25)

= ₹ **81900**

20. Volume

EXERCISE 20

1. Length = 15 cm, Breadth = 13 cm,

Height = 12.5 cm

Volume of box = l × b × h

= 15 × 13 × 12.5

= **2437.5 cm^3**

2. Volume of air = l × b × h

= 13 × 10.5 × 4

= **546 m^3**

3. Volume of a cuboid = 960 cm^3

Length = 12 cm

Breadth = 10 cm

Height of box = $\frac{\text{Volume}}{l \times D} = \frac{960}{12 \times 10}$

= **8 cm**

4. Length of a water tank = 16 m

Breadth = 7 m

Depth = 3 m

Volume of tank = l × b × h

= 16 × 7 × 3 = **336 l**

5. Length of tank = 6.5 m

Breadth of tank = 4.3 m

Depth of tank = 3.8 m

Volume of tank = 6.5 × 4.3 × 3.8

= 106.210 m^3

1 m^3 = 1000 ml

106.210 m^3 = **106210 ml**

6. Length of box (l) = 16 cm

Breadth (b) = 20 cm

Height (h) = 14 cm

Volume of box = 16 × 20 × 14

= 4480 cm^3

Volume of 1 cube = $(\text{side})^3$

= $(2)^3\ \text{cm}^3 = 8\ \text{cm}^3$

Number of cubes required

= $\frac{\text{Volume of box}}{\text{Volume of one cube}}$

= $\frac{4480}{8} = 560$

Comulative Revision - IV (Page no. 148)

1. Name the adjacent angles in the following figures :

(a) $\angle PON$ and $\angle MON$

(b) $\angle BAC$ and $\angle DAE$

2. Measure the following angles :

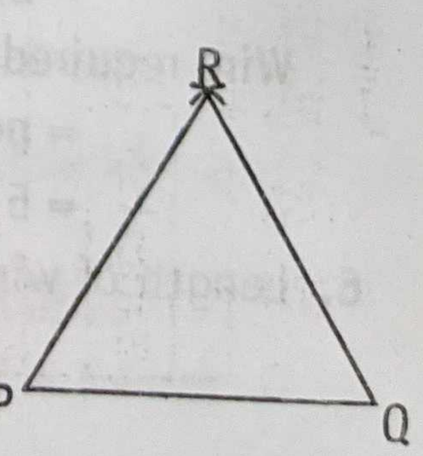
(a) $X = 60°$ (b) $Y = 60°$

(c) $Z = 70°$

3. Fist draw PQ = 4cm. Draw an arc of 7 cm on the centre of Q.

Now draw an other arc of 5 cm on the centre of both the arcs meet at R. Join PR and QR.

ΔPQR is required triangle.



4. Find the perimeter of triangle whose sides are 50 cm, 65 cm and 82 cm.

Perimeter of triangles

= Sum of length of three sides

= (50 + 65 + 82) cm = 197 cm

5. Find the volume of a room whose dimensions are 8 cm, 6 cm and 5 cm.

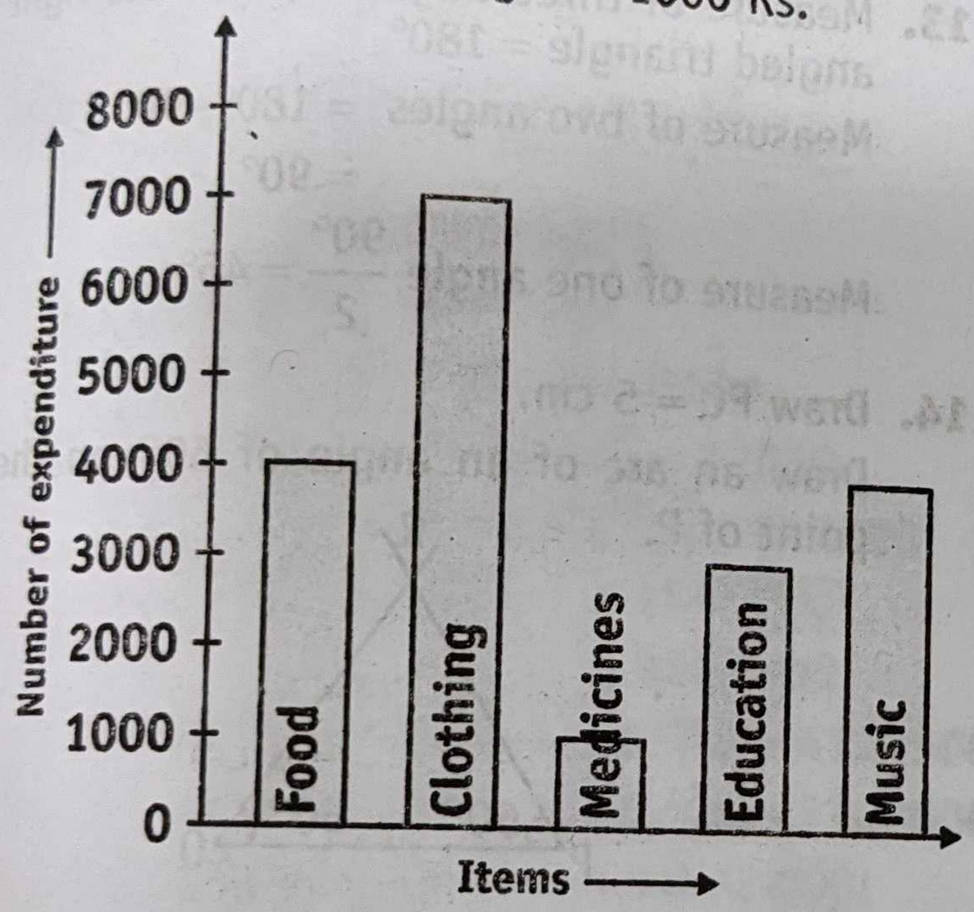
Volume of room $= l \times b \times h$

$= 8 \times 6 \times 5 = 240\ m^3$

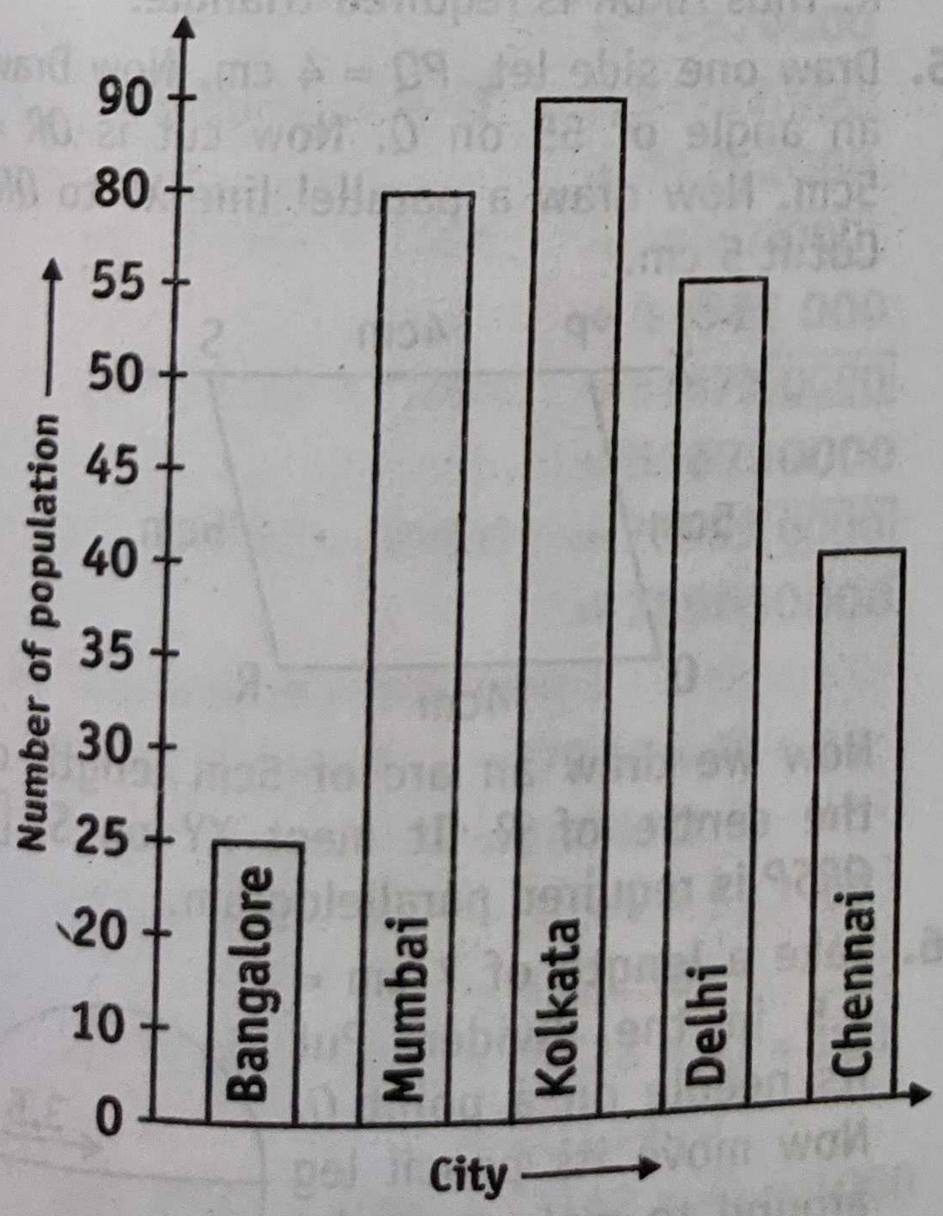
21. Bar Graph

EXERCISE 21

1. Scale : 1 unit length = 1000 Rs.



2. Scale : 1 unit length = 1 lakh



3. 4. See in answersheet.

Multiple Choice Questions (MCQs)

1. (c) **2.** (b) **3.** (a) **4.** (c) **5.** (b)
6. (c) **7.** (b) **8.** (c) **9.** (b) **10.** (c)

Annual Examination Paper

1. Multiple choice question : Tick (✓) the correct option :

(a) (ii); (b) (iv); (c) (i); (d) (ii).

2. $38 \div 19 \times 4 \div 6 \times 18 \text{ of } \frac{7}{9} + 124$

$= 2 \times 4 \div 6 \times 18 \text{ of } \frac{7}{9} + 124$

$= 2 \times 4 \div 6 \times 18 \times \frac{7}{9} + 124$

$= 2 + \frac{4}{6_3} \times \cancel{2}^{1} + 7 + 124$

$= \frac{56}{3} + 124$

$= \frac{56 + 372}{3} = \frac{928}{3} = \mathbf{309\frac{1}{7}}$

3. Sum of $3\frac{1}{2} + \frac{1}{4} + \frac{7}{18} + 2\frac{1}{6}$

$= \frac{7}{2} + \frac{1}{4} + \frac{7}{18} + \frac{13}{6}$

$= \frac{7 \times 18 + 4 \times 9 + 7 \times 2 + 13 \times 6}{36}$

$= \frac{126 + 36 + 14 + 78}{36} = \frac{254}{36}$

Average $= \frac{\cancel{254}^{172}}{{}_{18}\cancel{36} \times 4} = \frac{127}{72} = \mathbf{1\frac{55}{72}}$

4. Average weight of 14 students and 9 teachers

$= 42$ kg

Total weight of students and teachers

$= (42 \times 23)$ kg $= 966$ kg

Average weight of 9 teachers = 64 kg

Total weight of 9 teachers = (64×9)

$= 576$ kg

So, weight of 14 students $= 966 - 576$

$= 390$ kg

And average of 14 students $= \frac{390}{14}$

$= 27\frac{\cancel{12}^{6}}{\cancel{14}_{7}} = 27\frac{6}{7}$

5. Distance = 750 km, Time = ?

Speed = 80 km/hr

$\text{Time} = \frac{\text{Distance}}{\text{Time}} = \frac{750}{80} = 9\frac{3}{8}$ **hrs**

6. (a) 40% of 80

$= \frac{4\cancel{0}}{1\cancel{0}\cancel{0}} \times 8\cancel{0} = \mathbf{32}$

(b) 75% of 120

$= \frac{\cancel{75}^{15}}{\cancel{100}_{5}} \times \cancel{12}^{6} = \mathbf{90}$

7. 16% is = 33

1 % is $= \frac{33}{16}$

100 % is $= \frac{33}{16} \times 100 = \mathbf{5.28}$

8. C.P. of scooty = ₹ 24000

Increase price = 8% of 24000

$= \frac{8}{100} \times 24000 =$ ₹ 1920

New cost of scooty = ₹ (24000 – 1920)

= ₹ **22080**

9. C.P. of fan = ₹ 1800

S.P. of fan = ₹ 1950

Profit = ₹ (1950 – 1800) = ₹ 150

$\text{Profit \%} = \frac{\text{Profit}}{\text{C.P.}} \times 100$

$= \frac{150}{\cancel{1800}} \times \cancel{100} = \mathbf{8.33\%}$

10. P = ₹ 4200, R = 8.25% pa, T = 4 years

$\text{S.I.} = \frac{P \times R \times T}{100}$

$\text{S.I.} = \frac{4200 \times 8.25 \times 4}{100} =$ ₹ 1386

Prashant repaid = ₹ 4200 + ₹ 1386

= ₹ **5586**

11. (a) $y = 150°$ (Opposite angles)

$x = 30°$ (Opposite angles)

(b) $u = 55°$ (Opposite angles)

$v = 125°$ (Opposite angles)

12. (a) Supplement of 75° $= 180° - 75°$

$= 105°$

(b) Supplement of 113° $= 180° - 113°$

$= 67°$

13. Measure of three angles of isoscele right angled triangle = 180°

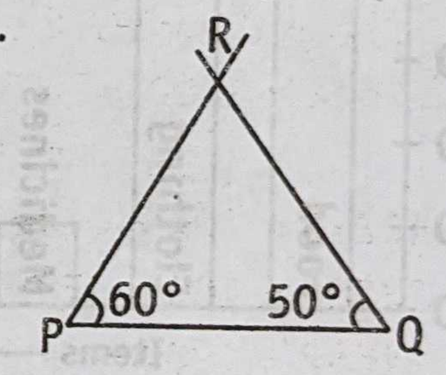
Measure of two angles $= 180° - 90°$

$= 90°$

Measure of one angle $\frac{90°}{2} = 45°$

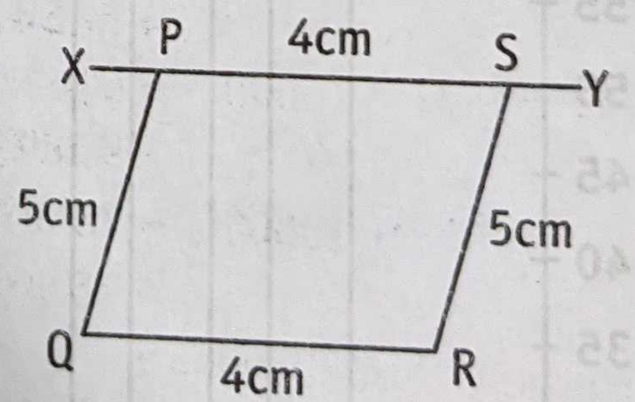
14. Draw PQ = 5 cm.

Draw an arc of an angle of 60° on the point of P.



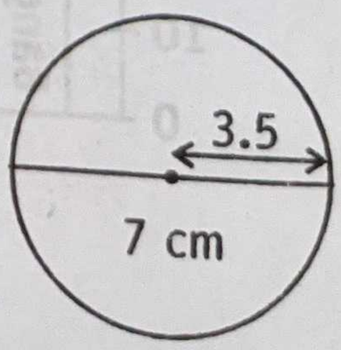
Now draw an angle of $180° - (60° - 70°)$ $= 50°$ on the point Q. They meet on Point R. Thus ΔPQR is required triangle.

15. Draw one side let, $PQ = 4$ cm, Now Draw an angle of 55 on Q. Now cut is $QR =$ 5cm. Now draw a parallel line XY to QR. Cut it 5 cm.



Now we draw an arc of 5cm length on the centre of R. It meet XY on S, □ $QRSP$ is required parallelogram.

16. Take a length of 7 cm = 3.5 in the divider. Put its needle on a point O. Now move its pencil leg around to make a circle. If is required circle.



17. Perimeter of park $= 2 \times (210 \times 185)$
$= 790\text{m}$
Distance in 3 rounds $= 3 \times 790$ m
$= \mathbf{2370m}$
So, the distance covered by boy is **2370m.**

18. Area of the floor $= 12\text{m} \times 9\text{m} = 108\ \text{m}^2$
cost of flooring $= \frac{108}{60} \times 25 = ₹\ \mathbf{2700}$

19. Volume of the tank $20 \times 12 \times 8$
$= 1920\ \text{m}^3$
$10\ \text{m}^3 = 1$ kilolitre
So, $1920\ \text{m}^3 = \frac{1920}{10} = 192$ kilolitre

20. Volume of cuboid $= 960\ \text{cm}^2$
Height of cuboid $= \frac{960}{12 \times 10} = 8$ cm

21. $15\ \text{m/s} = \frac{15^3 \times 60^3 \times 60}{1000} = \mathbf{54\ km/hr}$

22. and 23 Do yourself.

Mental Mathematics

WORKSHEET 1

1. Multiply the following :
(a) $723 \times 10 = 723\boxed{0} = \mathbf{7230}$
(b) $3785 \times 10 = 3785\boxed{0} = \mathbf{37850}$
(c) $9372 \times 100 = 9372\boxed{00} = \mathbf{937200}$
(d) $91672 \times 1000 = 91672\boxed{00}$
$= \mathbf{9167200}$
(e) $41285 \times 100 = 41285\boxed{00} = \mathbf{4128500}$
(f) $37285 \times 100 = 37285\boxed{00} = \mathbf{3728500}$
(g) $91632 \times 1000 = 91632\boxed{000}$
$= \mathbf{91632000}$
(h) $91876 \times 1000 = 91876\boxed{000}$
$= \mathbf{91876000}$
(i) $81762 \times 1000 = 81762\boxed{000}$
$= \mathbf{81762000}$
(j) $34567 \times 1000 = 34567\boxed{000}$
$= \mathbf{34567\ 000}$
(k) $51673 \times 10000 = 51673\boxed{0000}$
$= \mathbf{516730000}$
(l) $78563 \times 10000 = 78563\boxed{0000}$
$= \mathbf{785630000}$

2. Multiply the following :
(a) $7324 \times 24 = (7324 \times 2) \times 10$
$= \mathbf{146480}$
(b) $8245 \times 50 = (8245 \times 5) \times 10$
$= \mathbf{412250}$
(c) $6728 \times 300 = (6728 \times 3) \times 100$
$= \mathbf{2018400}$
(d) $7162 \times 4000 = (7162 \times 4) \times 1000$
$= \mathbf{28648000}$
(e) $9162 \times 7000 = (9162 \times 7) \times 1000$
$= \mathbf{64134000}$
(f) $8137 \times 600 = (8137 \times 6) \times 100$
$= \mathbf{4882200}$
(g) $9137 \times 8000 = (9137 \times 8) \times 1000$
$= \mathbf{73096000}$
(h) $2787 \times 5000 = (2787 \times 5) \times 1000$
$= \mathbf{13935000}$
(i) $9378 \times 900 = (9378 \times 9) \times 100$
$= \mathbf{8440200}$
(j) $6728 \times 80000 = (6725 \times 8) \times 10000$
$= \mathbf{538000000}$

3. Multiply the following :
(a) $3725 \times 25 \times 4 = 3725 \times (25 \times 4)$
$= 3725 \times 100 = \mathbf{372500}$
(b) $9128 \times 20 \times 5 = (9128 \times 5) \times 20$
$= 45640 \times 20 = \mathbf{912800}$
(c) $7285 \times 50 \times 4 = (7285 \times 4) \times 50$
$= 29140 \times 50 = \mathbf{1457000}$
(d) $3761 \times 100 \times 3 = (3761 \times 3) \times 100$
$= 11283 \times 100 = \mathbf{1128300}$
(e) $2186 \times 250 \times 4 = (2186 \times 4)$
$= 8744 \times 250 = \mathbf{2186000}$
(f) $7285 \times 125 \times 8 = (7285 \times 8)\ 125$
$= 58280 \times 125 = \mathbf{7285000}$
(g) $91628 \times 200 \times 5 = (91628 \times 5)\ 200$
$= 458140 \times 200 = \mathbf{91628000}$
(h) $37285 \times 400 \times 5 = (37285 \times 5)\ 400$

$= 186425 \times 400 = 74570000$

WORKSHEET - 2

1. Fill in the blanks :

(a) 1 (b) 2 (c) 2
(d) two (e) two (f) 2
(g) 2 (h) no common (i) 4
(j) 2 (k) 1 (l) 2

2. Write four next multiples of :

(a) 7, 14, 21, 28, 35
(b) 11, 22, 33, 44, 55
(c) 13, 26, 39, 52, 65
(d) 22, 44, 66, 88, 110
(e) 25, 50, 75, 100, 125
(f) 37, 74, 111, 148, 185

3. Write common factors of :

(a) 20 and 32 1, 2, 4
(b) 24 and 36 1, 2, 3, 4, 6, 12
(c) 18 and 54 1, 3, 6, 9, 18
(d) 30 and 50 1, 2, 5, 10
(e) 40 and 60 1, 2, 4, 5, 10, 20
(f) 75 and 100 1, 5, 25

WORKSHEET - 3

1. Fill in the blanks :

(a) $\frac{1}{4}$ of $24 = \frac{1}{\cancel{4}} \times \cancel{24}^{6} = 6$

(b) $\frac{1}{5}$ of $35 = \frac{1}{\cancel{5}} \times \cancel{35}^{7} = 7$

(c) $\frac{1}{7}$ of $63 = \frac{1}{\cancel{7}} \times \cancel{63}^{9} = 9$

(d) $\frac{1}{8}$ of $72 = \frac{1}{\cancel{8}} \times \cancel{72}^{9} = 9$

(e) $\frac{5}{9}$ of $105 = \frac{5}{\cancel{9}_{3}} \times \cancel{105}^{35} = \frac{175}{3}$

(f) $\frac{6}{11}$ of $55 = \frac{6}{\cancel{11}} \times \cancel{55}^{5} = 30$

(g) $\frac{3}{4} \times \frac{16}{36} = \frac{\cancel{3} \times \cancel{16}^{4}}{\cancel{4} \times \cancel{36}_{12}} = \frac{2}{12} = \frac{1}{6}$

(h) $\frac{3}{7} \times \frac{14}{21} = \frac{\cancel{3} \times \cancel{14}^{2}}{\cancel{7} \times \cancel{21}_{7}} = \frac{2}{7}$

(i) $\frac{4}{9} \times \frac{36}{64} = \frac{\cancel{4}^{1} \times \cancel{36}^{4}}{\cancel{9} \times \cancel{64}_{16}} = \frac{4}{16} = \frac{1}{8}$

(j) $1\frac{3}{4} \times \frac{8}{15} = \frac{7 \times \cancel{8}^{2}}{\cancel{4} \times 15} = \frac{14}{15}$

(k) $\frac{3}{4} \times \frac{8}{9} = \frac{\cancel{3} \times \cancel{8}^{2}}{\cancel{4} \times \cancel{9}_{3}} = \frac{2}{3}$

(l) $1\frac{1}{4} \times 2\frac{2}{5} = \frac{\cancel{5} \times \cancel{12}^{3}}{\cancel{4} \times \cancel{5}} = \frac{3}{1}$

2. Fill in the blanks :

(a) $\frac{1}{10} \div 5 = \frac{1}{10} \times \frac{1}{5} = \frac{5}{10} = \frac{1}{2}$

(b) $\frac{1}{5} \div \frac{2}{25} = \frac{1}{\cancel{5}} \times \frac{\cancel{25}^{5}}{2} = \frac{5}{2} = 2\frac{1}{5}$

(c) $\frac{9}{7} \div 18 = \frac{9}{7} \times \frac{1}{18} = \frac{162}{7} = 23\frac{1}{7}$

(d) $\frac{12}{17} \div 4 = \frac{12}{17} \times \frac{1}{4} = \frac{48}{17} = 2\frac{14}{17}$

(e) $\frac{14}{25} \div 21 = \frac{14}{25} \times \frac{1}{21} = \frac{294}{25} = 9\frac{69}{25}$

(f) $\frac{16}{17} \div 64 = \frac{16}{17} \times \frac{1}{64} = \frac{1024}{17} = 60\frac{4}{17}$

(g) $67 \div 9\frac{4}{7} = \cancel{67} \times \frac{7}{\cancel{67}} = 7$

(h) $7\frac{2}{3} \div 46 = \frac{23}{3} \times \frac{1}{46} = \frac{1058}{3} = 352\frac{2}{3}$

(i) $8\frac{1}{5} \div 9 = \frac{41}{5} \times \frac{1}{9} = \frac{369}{5} = 73\frac{4}{5}$

(j) $6\frac{2}{3} \div 13\frac{1}{3} = \frac{\cancel{20}}{\cancel{3}} \times \frac{\cancel{3}}{\cancel{40}_{2}} = \frac{1}{2}$

(k) $21 \div 3\frac{1}{2} = \cancel{21}^{3} \times \frac{2}{\cancel{7}} = 6$

(l) $11\frac{2}{5} \div 3\frac{3}{4} = \frac{57}{5} \times \frac{4}{15} = \frac{228}{75} = 3\frac{3}{75}$

WORKSHEET - 4

1. Fill in the blanks :

(a) 3.16 = 31.6
(b) 19.006 = 19006.0
(c) 7.28 = 728.0
(d) 7.628 = 762.8
(e) 0.96 = 960.0
(f) 13.728 = 13728.0
(g) 3.912 = 3912.0
(h) 9.162 = 91.62
(i) 0.008 = 0.8

(j) $3.81 = \mathbf{381.0}$

(k) $7.162 = \mathbf{7162.0}$

(l) $6.172 = \mathbf{6172.0}$

(m) $31.912 = \mathbf{31912.0}$

(n) $\mathbf{91200.0}$

2. Fill in the blanks :

(a) 0.45 (b) 0.0419

(c) 0.0916 (d) 0.009628

(e) 0.37825 (f) 0.013416

(g) 0.091372 (h) 0.0008124

(i) 0.000347 (j) 1.9372

(k) 0.000916 (l) 0.00008

(m) 0.008128 (n) 0.06728

3. Find the quotient :

(a) 0.008 (b) 0.14

(c) 3.62 (d) 0.3

(e) 4.03 (f) 0.94

(g) 0.27 (h) 0.002

(i) 1.82 (j) 6.967

(k) 9.572 (l) 0.7456

(m) 21.29 (n) 7.01

WORKSHEET - 5

1. Express the following speed into km/hr :

(b) $25 \text{ m/s} = 25 \times \frac{18}{5} = \mathbf{90 \text{ km/hr}}$

(c) $45 \text{ m/s} = 45 \times \frac{18}{5} = \mathbf{162 \text{ km/hr}}$

(d) $60 \text{ m/s} = 60 \times \frac{18}{5} = \mathbf{216 \text{ km/hr}}$

(e) $22.5 \text{ m/s} = 225 \times \frac{18}{5} = \mathbf{81 \text{ km/hr}}$

(f) $55 \text{ m/s} = 55 \times \frac{18}{5} = \mathbf{198 \text{ km/hr}}$

2. Express the following speed into m/s :

(b) $36 \text{ km/hr} = 36 \times \frac{5}{18} = \mathbf{10 \text{ m/s}}$

(c) $45 \text{ km/hr} = 45 \times \frac{5}{18} = 12.5 \text{ m/s}$

(d) $72 \text{ km/hr} = 72 \times \frac{5}{18} = \mathbf{20 \text{ m/s}}$

(e) $108 \text{ km/hr} = 108 \times \frac{5}{18} = \mathbf{30 \text{ m/s}}$

(f) $162 \text{ km/hr} = 162 \times \frac{5}{18} = \mathbf{45 \text{ m/s}}$

3. Fill in the blanks :

(a) 50 km/hr (b) 5 hr

(c) 4.5 (d) 455 km

WORKSHEET - 6

1. Express as percent :

(a) $\frac{3}{100} = \mathbf{3\%}$

(b) $\frac{5}{10} = \frac{5 \times 10}{10 \times 10} = \frac{50}{100} = \mathbf{50\%}$

(c) $\frac{7}{10} = \frac{7 \times 10}{10 \times 10} = \frac{70}{100} = \mathbf{70\%}$

(d) $\frac{9}{10} = \frac{9 \times 10}{10 \times 10} = \frac{90}{100} = \mathbf{90\%}$

(e) $\frac{37}{100} = \mathbf{37\%}$ (f) $\frac{43}{100} = \mathbf{43\%}$

(g) $\frac{63}{100} = \mathbf{63\%}$ (h) $\frac{57}{100} = \mathbf{57\%}$

(i) $\frac{73}{10} = \frac{73 \times 10}{10 \times 10} = \frac{730}{100} = \mathbf{730\%}$

(j) $\frac{68}{10} = \frac{68 \times 10}{10 \times 10} = \frac{680}{100} = \mathbf{680\%}$

(k) $\frac{53}{100} = \mathbf{53\%}$ (l) $\frac{127}{100} = \mathbf{127\%}$

(m) $\frac{113}{10} = \frac{113 \times 10}{10 \times 10} = \frac{1130}{100} = \mathbf{1130\%}$

(n) $\frac{153}{100} = \mathbf{153\%}$

2. Express as a fraction :

(a) $3\% = \frac{\mathbf{3}}{\mathbf{100}}$

(b) $5\% = \frac{5}{100} = \frac{\mathbf{1}}{\mathbf{20}}$

(c) $15\% = \frac{15}{100} = \frac{\mathbf{3}}{\mathbf{20}}$

(d) $14\% = \frac{14}{100} = \frac{\mathbf{7}}{\mathbf{20}}$

(e) $27\% = \frac{\mathbf{27}}{\mathbf{100}}$

(f) $35\% = \frac{35}{100} = \frac{\mathbf{7}}{\mathbf{20}}$

(g) $54\% = \frac{54}{100} = \frac{27}{50}$

(h) $62\% = \frac{62}{100} = \frac{31}{50}$

(i) $85\% = \frac{85}{100} = \frac{17}{20}$

(j) $93\% = \frac{93}{100}$

(k) $40\% = \frac{40}{100} = \frac{2}{5}$

(l) $87\% = \frac{87}{100}$

(m) $95\% = \frac{95}{100} = \frac{19}{20}$

(n) $76\% = \frac{76}{100} = \frac{19}{25}$

WORKSHEET - 7

1. Classify the angles as acute, obtuse, right, straight or reflex angle.
   (a) 70°, 35°, 45°, 69°, 37°
   (b) 160°, 165°, 110°, 125°, 178°, 170°
   (c) 90° (d) 180°
   (e) 270°, 315°, 195°, 255°, 185°
2. Write the angle between :
   (a) 135° (b) 45° (c) 315°
   (d) 225° (e) 275°
3. Find the complement of the following :
   (a) $90° - 45° = 45°$ (b) $90° - 62° = 28°$
   (c) $90° - 79° = 11°$ (d) $90° - 8° = 82°$
   (e) $90° - x°$ (f) $90° - y°$
4. Find the supplement of the following :
   (a) $180° - 68° = 112°$
   (b) $180° - 110° = 70°$
   (c) $180° - 162° = 18°$
   (d) $180° - 85° = 95°$
   (e) $180° - 95° = 85°$
   (f) $180° - x°$

WORKSHEET - 8

1. Fill in the blanks :
   (a) three (b) three , three
   (c) 180° (d) bigger than
   (e) equal (f) scalene
   (g) 90° (h) 360°
   (i) equal (j) parallel
2. Fill in the blanks :
   (a) one (b) one (c) three
3. Find the third angle of the following triangles :
   (a) $180° - (60° + 70°) = 180° - 130° = \mathbf{50°}$
   (b) $180° - 90° = \frac{90°}{2} = \mathbf{45°}$
   (c) $180° - (75° + 30°) = 180° - 105° = \mathbf{75°}$
   (d) $180° - (60° + 75°) = 180° - 135° = \mathbf{45°}$
   (e) $180° - (60° + 60°) = 180° - 120° = \mathbf{60°}$
   (f) $180° - (90° + 30°) = 180° - 120° = \mathbf{60°}$
4. Can a triangle form in following situations ?
   (a) $30° + 90° + 40° = 170°$, So it is impossible
   (b) $60° + 80° + 40° = 180°$, So it is possible
   (c) $90° + 70° + 20° = 180°$, So it is possible
   (d) $(6 + 8)$ cm > 10 cm, So it is possible
   (e) $(5 + 6)$ cm $= 11$ cm, So, it is impossible
   (f) $(9 + 8)$ cm < 18 cm, So, it impossible