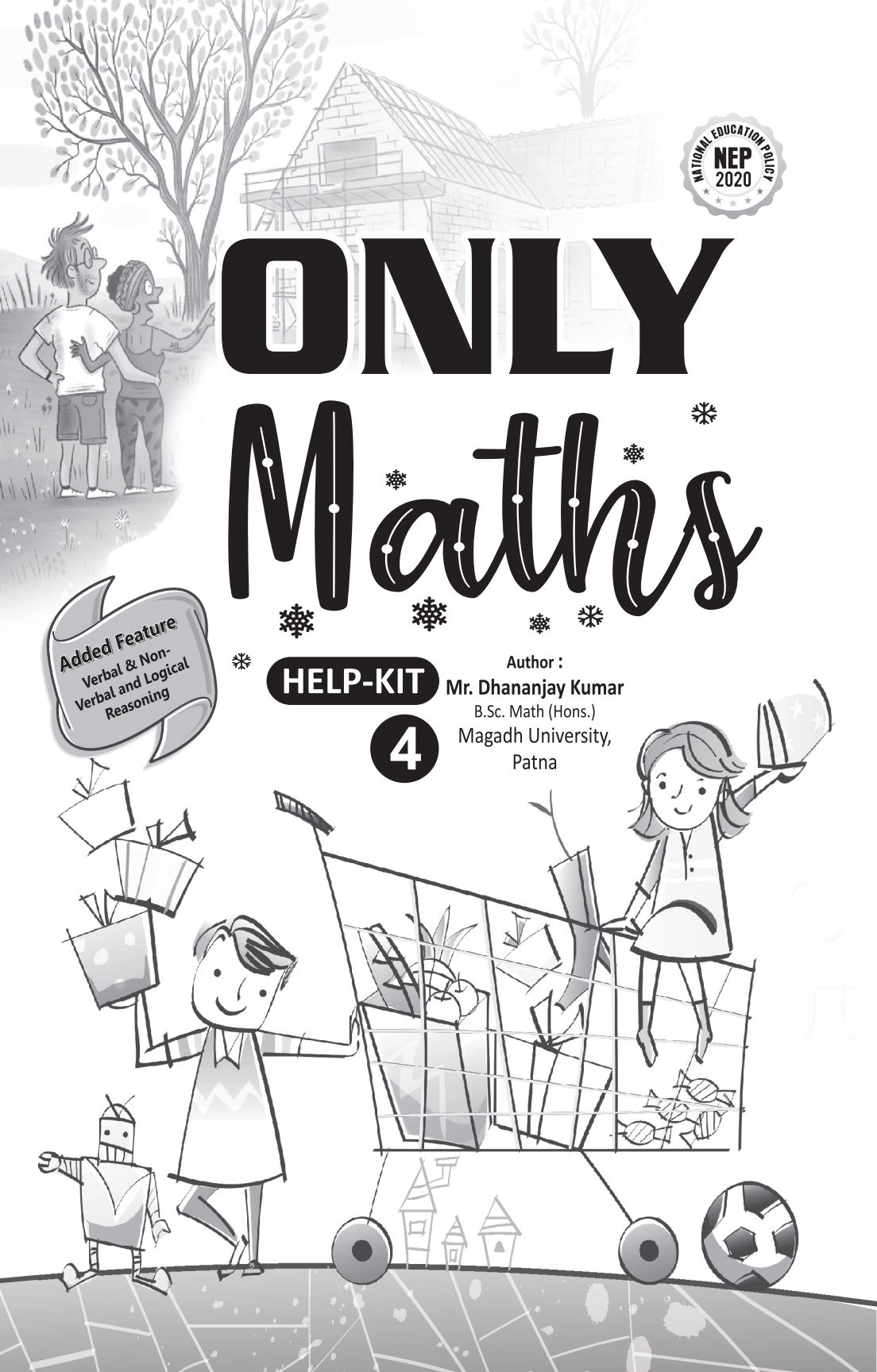

NATIONAL EDUCATION POLICY NEP 2020

ONLY Maths

Added Feature
Verbal & Non-Verbal and Logical Reasoning

HELP-KIT 4

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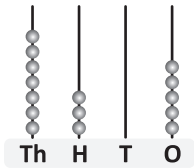
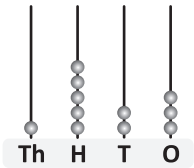
Exercise - 1

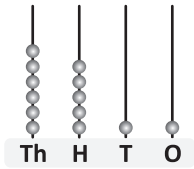
1. (a) Five thousand seven hundred sixty-four
   (b) Seven thousand two hundred thirty-nine
   (c) One thousand three hundred fourteen
   (d) One thousand five hundred sixty-six
   (e) One thousand three hundred ninety-two
2. (a) 9067 (b) 807 (c) 8829 (d) 5628 (e) 3325
   (f) 6252 (g) 9407 (h) 1011 (i) 2780
3. (a) 3000 (b) 80 (c) 500 (d) 20
4. (a) 3000 + 400 + 10 + 2 (b) 8000 + 100 + 60 + 2
   (c) 4000 + 700 + 10 + 0 + 3 (d) 4000 + 100 + 10 + 6
   (e) 8000 + 700 + 0 + 9 (f) 6000 + 800 + 90 + 1
   (g) 7000 + 600 + 7 (h) 3000 + 100 + 90 + 2
   (i) 4000 + 0 + 0 + 9
5. (a) 99 (b) 999 (c) 9999
   (d) 10 (e) 100 (f) 1000
6. (a) 2133 (b) 6575 (c) 3111 (d) 8775
7. (a) 900, 600, 300 (b) 1100, 1000, 900
   (c) 4821, 2500, 2000, 1500 (d) 2500, 2000, 1500
8. (a) 880, 920, 960 (b) 1740, 1960, 2070 (c) 1198, 1398, 1498
9. (a) 7305



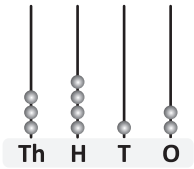
(b) 1523



(c) 6511



(d) 3412



10. greatest four digit number 7432
    smallest four digit number +2347
    Addition 9779

11. a. 2662 > 2462 b. 5281 > 4318
c. 3141 < 3333 d. 6421 > 6412
e. 5711 > 5373 f. 6052 < 6312
g. 6511 > 5114 h. 4114 > 4042
i. 4414 < 6212

12. (a) 6311 (b) 2155 (c) 1569 (d) 5975 (e) 1768
(f) 8087 (g) 5768 (h) 1925 (i) 5057 (j) 6214

13. (a) 6 thousands + 5 hundreds + 9 tens + 7 ones
(b) 5 thousands + 8 hundreds + 2 tens + 5 ones
(c) 1 thousands + 6 hundreds + 9 tens + 4 ones
(d) 2 thousands + 4 ones

14. (a) 4 < 95 < 545 < 8787 (b) 6 < 83 < 632 < 9871
(c) 4 < 29 < 697 < 8767 (d) 9 < 13 < 876 < 2432

15. (a) 3675 > 2887 > 311 > 87 > 8 (b) 6066 > 666 > 66 > 6
(c) 8347 > 2111 > 659 > 12 > 9 (d) 4400 > 400 > 40 > 4

16. (a)

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

(b)

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

(c)

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

(d)

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

(e)

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

(f)

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

(g)

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

(h)

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

(i)

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

(j)

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

(k)

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

(l)

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

(m)

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

(n)

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

(o)

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

(p)

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

17. (a)

	1	7	5	7
+	5	6	4	9
	7	4	$\boxed{9}$	6

(b)

	2	1	3	3
+		2	$\boxed{6}$	3
	2	3	9	6

(c)

	2	3	4	5
+	4	6	4	2
+		2	$\boxed{1}$	2
	7	1	9	9

18.

(a)

	Th	H	T	O
	5	4	7	3
−	3	2	4	2
	2	2	3	1

(b)

	Th	H	T	O
	9	6	5	7
−	8	3	5	2
	1	3	0	5

(c)

	Th	H	T	O
	6	8	4	3
−	3	4	3	7
	3	4	0	6

(d)

	Th	H	T	O
	5	2	1	4
−	3	6	8	7
	1	5	2	7

(e)

	Th	H	T	O
	5	7	6	9
−	1	4	3	0
	4	3	3	9

(f)

	Th	H	T	O
	3	7	2	5
−	2	1	6	5
	1	5	6	0

(g)

	Th	H	T	O
	9	6	7	0
−	2	6	0	0
	7	0	7	0

(h)

	Th	H	T	O
	6	3	9	0
−	2	0	0	0
	4	3	9	0

(i)

	Th	H	T	O
	7	6	9	7
−	4	3	9	2
	3	5	0	5

(j)

	Th	H	T	O
	5	7	6	4
−	4	3	3	7
	1	4	2	7

(k)

	Th	H	T	O
	6	5	8	7
−	3	4	6	5
	3	1	2	2

(l)

	Th	H	T	O
	9	4	0	8
−	4	1	0	0
	5	3	0	8

19.

(a)

	Th	H	T	O
	6	3	0	5
−	2	$\boxed{2}$	2	0
	4	1	8	5

(b)

	Th	H	T	O
	5	4	2	2
−	2	2	0	$\boxed{1}$
	3	2	2	1

(c)

	Th	H	T	O
	9	6	3	3
−	2	$\boxed{2}$	2	2
	7	4	1	1

(d)

	Th	H	T	O
	1	0	0	0
−		9	0	$\boxed{9}$
			9	1

(e)

	Th	H	T	O
		3	6	8
−		$\boxed{1}$	2	3
		2	4	5

(f)

	Th	H	T	O
		4	3	6
−		3	$\boxed{0}$	1
		1	3	5

20.

(a)

	T	O
	2	4
×		7
1	6	8

(b)

	T	O
	2	3
×		6
1	3	8

(c)

	Th	H	T	O
	4	1	3	5
×				4
1	6	5	4	0

(d)

	H	T	O
	3	7	5
×			8
3	0	0	0

(e)

	Th	H	T	O
	3	1	7	5
×				3
9	5	2	5	

(f)

	Th	H	T	O
		7	8	0
×				9
7	0	2	0	

(g)

	Th	H	T	O
		2	5	9
×				5
1	2	9	5	

(h)

	Th	H	T	O
		4	1	2
×				6
2	4	7	2	

21.

(a)

4) 848 (212
−8
04
−4
08
−08
×

(b)

9) 846 (94
−81
36
−36
0

(c)

8) 408 (51
−40
08
−8
0

(d)

6) 366 (61
−36
06
−06
0

22. (a)

```
      173
5)865(
 −5
  36
 −35
   15
  −15
    0
```

(b)

```
      335
7)  2345(
   −21
     24
   −21
      35
   −35
       0
```

(c)

```
      402
4)1608(
  −16
    00
   −00
     08
   −08
     0
```

(d)

```
      497
5)2485(
  −20
    48
   −45
     35
   −35
     0
```

23. (a)

$\boxed{\frac{3}{8}}$

(b)

$\boxed{\frac{2}{8}}$

(c)

$\boxed{\frac{3}{4}}$

24. (a) $\frac{3}{5}$

(b) $\frac{1}{7}$

(c) $\frac{3}{9}$

(d) $\frac{4}{7}$

25. (a) $\frac{3}{12} < \frac{5}{12} < \frac{6}{12} < \frac{7}{12}$

(b) $\frac{1}{9} < \frac{3}{7} < \frac{4}{7} < \frac{6}{7}$

(c) $\frac{2}{9} < \frac{3}{9} < \frac{5}{9} < \frac{6}{9}$

26. (a) $\frac{4}{16} + \frac{2}{16} = \frac{4+2}{16} = \frac{6}{16}$

(b) $\frac{9}{35} + \frac{8}{35} = \frac{9+8}{35} = \frac{17}{35}$

(c) $\frac{9}{13} + \frac{4}{13} + \frac{3}{13} = \frac{9+4+3}{13} = \frac{16}{13}$

(d) $\frac{8}{20} - \frac{6}{20} = \frac{8-6}{20} = \frac{2}{20}$

(e) $\frac{35}{47} - \frac{13}{47} = \frac{35-13}{47} = \frac{22}{47}$

(f) $\frac{36}{59} - \frac{14}{59} = \frac{36-14}{59} = \frac{22}{59}$

27. (a) $\frac{2}{3} = \frac{2 \times 4}{12} = \frac{8}{12}$

(b) $\frac{1}{8} = \frac{5}{8 \times 5} = \frac{5}{40}$

(c) $\frac{2}{7} = \frac{2 \times 4}{28} \Rightarrow \frac{2}{7} = \frac{8}{28}$

(d) $\frac{12}{42} = \frac{12 \div 6}{7} = \frac{2}{7}$

(e) $\frac{}{4} = \frac{18}{24} \Rightarrow \frac{18 \div 6}{4} = \frac{18}{24} \Rightarrow \frac{3}{4} = \frac{18}{24}$

(f) $\frac{15}{24} = \frac{15 \div 3}{8} = \frac{5}{8}$

28. (a)

	₹	p
	22	43
+	17	44
	39	87

(b)

	₹	p
	132	25
+	367	74
	499	99

(c)

	₹	p
	324	64
+	93	25
	417	89

(d)

	₹	p
	168	95
+	117	50
	286	45

29. (a)

	₹	p
	84	44
–	25	13
	59	31

(b)

	₹	p
	388	28
–	144	12
	244	16

(c)

	₹	p
	628	41
–	244	29
	484	12

(d)

	₹	p
	348	67
–	208	05
	140	62

30. (a) Cost of 1 book $= 384 \div 6$

$= ₹\ 64$

```
6) 384 (64
   –36
    24
   –24
     0
```

(b) Children went to picnic

```
  5 5
  × 6
3 3 0
```

(c) Each box weight = (2 kg 622 g ÷ 6) or 622 g ÷ 6 = 437 g

```
6)2622(437
 –24
   22
  –18
    42
   –42
    00
```

(d) 366 days in a leap year

(e) 9:10 am – 7:00 am

2 hr 10 minutes

$(2 \times 60 + 10)$ minutes

$(120 + 10)$ minutes

Anita took 130 minutes to get ready.

(f) Worker earn in 8 months = ₹925 × 8
= ₹7400

925
× 8
7400

31. (a) 1000 metre (b) 100 m (c) 10 ml
(d) 1000 mg (e) 1000 g

32. (a) 8 Km 350 m
8 × 1000 m + 350 m
8000 m + 350 m
8350 m

(b) 6397 m
(6000 + 397) m
6000 m + 397 m
6 km 397 m

(c) 15 m 75 cm
15 × 100 cm + 75 cm
(1500 + 75) cm
1575 cm

(d) 5610 m
5000 m + 610 m
5 km + 610 m
5 km 610 m

33. (a) 366 (b) 7 (c) 60 (d) 12 (e) 24

34. (a)

	km	m
	7	850
+	4	275
+	4	275
	16	450

(b)

	kg	g
	6	400
+	3	100
+	5	700
	15	200

(c)

	l	ml
	8	700
+	4	340
+	5	300
	18	340

(d)

	km	m
	3	500
+	4	100
+	6	50
	13	650

(e)

	kg	g
	17	125
+	19	135
+	20	300
	56	560

(f)

	l	ml
	1	104
+	4	321
+	7	487
	12	912

35. (a)

	km	m
	22	800
–	17	500
	5	300

(b)

	kg	g
	17	600
–	12	200
	5	400

(c)

	l	ml
	28	325
–	16	156
	12	169

36. (a)

kg	g
97	22
×	7
679	154

∴ 97 Kg 22 g × 7
= 679 kg 154 g

(b)

```
     111 kg 130 g
7)777 kg 910 g(
  –7
  ------------
   07
   –7
  ------------
    7
    –7
  ------------
    0   9
       –7
  ------------
       21
       –21
  ------------
        00
  ------------
```

(c)

kg	g
112	50
×	8
896	400

∴ 777 kg 910 g ÷ 7
= 111 kg 130 g

37. (a)

l	ml
62	420
×	5
312	100

(b)

l	ml
88	14
×	8
704	112

(c)

```
     45 l 336 ml
9) 408 l 024 ml (
   −36
    48
   −45
     30
    −27
      32
     −27
       54
      −54
        00
```

408 l 24 ml ÷ 9
= 45 l 336 ml

38.

Weight of Ist person	55 kg 000 g
Weight of IInd person	57 kg 000 g
Weight of IIIrd person	+ 65 kg 700 g
Total weight	177 kg 700 g

39.

Total milk	=	85 l 000 ml
milk sold	=	− 65 l 350 ml
milk left	=	19 l 650 ml

40. (a) 6 : 00 (b) 4 : 00 (c) 8 : 00
(d) 2 : 00 (e) 2 : 30 (f) 8 : 52

41. (a)

7 : 30

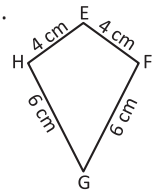
(b)

5 : 40

(c)

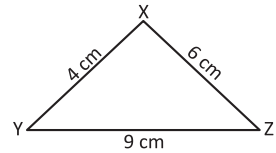
2 : 15

42. a.

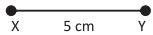


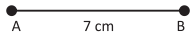
EF = **4** cm
FG = **6** cm
GH = **6** cm
HE = **4** cm
Perimeter = **20** cm

b.



XY = **4** cm
YZ = **9** cm
ZX = **6** cm
Perimeter = **16** cm





43. (a) $\overline{XY} = 5$ cm (b) $\overline{AB} = 7$ cm

44. (a) March (b) June (c) 31 days
(d) December (e) Tuesday; Thursday (f) 365, 52
(g) 40 (h) 7 × 365 days = 2555 (i) (3×60+20) Numbers = 200
(j) 1440 (k) (2×24+3) hours = 51 (l) 4 × 60 × 60 seconds = 4 hours 14400 second
(m) 2×24×60×60 seconds = 172800

45. (a) 6 : 30 (b) 3 : 15 (c) 9 : 00
(d) 8 : 45 (e) 12 : 30 (f) 3 : 45

46. (a) A quarter to 10 (b) A quarter to 5
(c) Half past three (d) A quarter past seven

2 Large Numbers

Exercise - 2.1

1. (a) 3 (b) 2, 7, 3, 5 (c) 8, 4, 2, 6, 7 (d) 5, 0, 2, 1, 6

2. (a) Twenty six thousand seven hundred fifty.
(b) Seventy nine thousand eighteen.
(c) Six lakh seventy thousand five hundred twenty seven.
(d) Five lakh fifty five thousand twenty-one.
(e) Eighty eight thousand one hundred seventy seven.
(f) Sixty six thousand four hundred and eight.
(g) Six lakh fifty three thousand nine hundred seventy three.
(h) Nine lakh forty thousand fifty-seven.
(i) Nine lakh seventy-five thousand four.
(j) Three lakh thirty-five thousand seven hundred twenty seven.
(k) Seven lakh fifty even.
(l) Eight lakh ninety eight thousand three hundred twenty-one.

3. (a) 54,670 (b) 7,42,603 (c) 9,60,007 (d) 4,00,200
(e) 2,20,130 (f) 8,04,057 (g) 7,00,317 (h) 3,08,603
(i) 5,00,009 (j) 9,00,307

4. (a) ix (b) x (c) v (d) i (e) vi
(f) vii (g) ii (h) vi (i) iii (j) viii

Exercise - 2.2

1. (a) Face value of 6 in 56,128 is 6.
(b) Face value of 7 in 67,939 is 7.
(c) Face value 78 in 429801 is 8.

2. (a) 70 (b) 300 (c) 9,00,000
(d) 60,000 (e) 10 (f) 700

3. (a) 70 (b) 7 (c) 7,000
(d) 70,000 (e) 7,00,000 (f) 70,000

4. Place value of 5 is 5000 in 7,25,400; 75,000; 45,625

5. (a) Place value of 5 in 35,105 are 5000 and 5.
Sum is 5000 + 5 = 5005
(b) Place value of 5 in 523451 are 500000 and 50
Sum is 500000 + 50 = 500050
(c) Place value of 5 in 852563 are 50000 and 500
Sum is 50000 + 500 = 50500
(d) Place value of 5 in 54256 are 50000 and 50
Sum is 50000 + 50 = 50050

6. (a) Place value of 7 in 76317 are 70000 and 7
difference 70000 – 7 = 69,993
(b) Place value of 7 in 87687 are 7000 and 7
difference is 7000 – 7 = 6993
(c) Place value of 7 in 467371 are 7000 and 70
difference is 7000 – 70 = 6930
(d) Place value of 7 in 907027 are 7000 and 7
difference is 7000 – 7 = 6993

7. (a) 8 (b) 9 (c) 2 (d) 1

8. (a) 3000 + 500 + 90 + 7
(b) 40000 + 6000 + 200 + 30 + 8
(c) 50000 + 7000 + 0 + 0 + 9
(d) 600000 + 10000 + 5000 + 0 + 90 + 8
(e) 400000 + 80000 + 5000 + 500 + 40 + 6
(f) 100000 + 50000 + 7000 + 0 + 30 + 7
(g) 700000 + 50000 + 3000 + 200 + 10 + 6
(h) 900000 + 10000 + 9000 + 0 + 20 + 0

9. (a) 6,442 (b) 27,343 (c) 7,70,408 (d) 8,50,792
(e) 6,42,306 (f) 9,04,075

Exercise-2.3

1.

a.	2,508	>	888	b.	3,522	>	935
c.	9,657	<	29,514	d.	3,29,203	<	3,51,630
e.	4,56,735	>	4,56,292	f.	86,326	<	2,51,788
g.	3,63,245	<	3,92,500	h.	2,33,694	>	2,23,008
i.	32,164	>	8,515	j.	67,541	=	67,541
k.	3,85,196	>	3,65,209	l.	8,50,693	<	8,56,093
m.	9,16,358	=	9,16,358	n.	2,50,084	>	90,508
o.	7,53,497	>	4,53,479	p.	2,45,734	<	2,45,743

2. (a) 16,090 < 16903 < 18009
(b) 45555 < 55455 < 55545
(c) 48874 < 84578 < 88754
(d) 60666 < 66066 < 66606

(e) 517 < 1,025 < 2,091 < 3,610 < 61,395
(f) 351 < 1,678 < 2,500 < 6,135 < 21,015
(g) 5,861 < 6,219 < 18,905 < 21,519 < 56,827
(h) 19,007 < 26,871 < 45,341 < 3,65,729 < 4,78,051

3. (a) 39031 > 31093 > 31039
(b) 50500 > 50050 > 5005
(c) 18761 > 18594 > 18112
(d) 28001 > 27565 > 25998
(e) 62,519 > 25,009 > 9,165 > 6,501 > 653
(f) 7,25,017 > 1,00,009 > 85,371 > 56,785 > 43,519
(g) 7,19,076 > 4,54,839 > 2,81,263 > 2,35,245 > 81,526
(h) 4,61,300 > 2,91,730 > 91,703 > 5,725 > 293

4. (a) 75,636 (b) 43,600 (c) 8,29,258
(d) 5,36,891 (e) 6,48,466 (f) 3,89,791

5. (a) 32,675 (b) 5,37,999 (c) 6,57,498
(d) 9,72,995 (e) 7,32,799 (f) 6,26,089

6. (a) 14,903 (b) 6506 (c) 60,666 (d) 41,135
(e) 50,091 (f) 70007 (g) 32,492 (h) 75,538

7. (a) 19,350 (b) 23,717 (c) 38,034 (d) 42,111
(e) 57,001 (f) 65,463 (g) 74,433 (h) 85,592

8. numbers are 458, 548, 584, 845, 854
458 < 548 < 584 < 845 < 854

9. numbers are 746, 764, 647, 674, 467, 476
764 < 746 < 674 < 647 < 476 < 467

10. (a) greatest = 8,653 smallest = 3,568
(b) greatest = 8,532 smallest = 2,358
(c) greatest = 7,430 smallest = 3,047

11. (a) greatest = 9,652 smallest = 2,569
(b) greatest = 7,610 smallest = 1,067
(c) greatest = 8,763 smallest = 3,678

12. a. 1111 b. 1,023

Exercise - 2.4

1. (a) 8640, 8650, 8660, 8670, 8680, 8690
(b) 25,380; 25,390; 25,400; 25,410; 25,420; 25,430

2. (a) 8780, 8880, 8980, 9080, 9180, 9280
(b) 43,839; 43,939; 44,039; 44,139; 44,239; 44,339

3. (a) 6274; 7274; 8274; 9274; 10,274; 11,274;
(b) 45,007; 46,007; 47,007; 48,007; 49,007; 50,007

4. (a) 36,749; 46,749; 56,749; 66,749; 76,749; 86,749
(b) 40,658; 50,658; 60,658; 70,658; 80,658; 90,658

Exercise - 2.5

1.	(a) 70	(b) 90	(c) 90	(d) 350	(e) 540
	(f) 1730	(g) 12,350	(h) 27,470		
2.	(a) 800	(b) 1600	(c) 1900	(d) 8200	(e) 5000
	(f) 8500	(g) 20,200	(h) 19,000		
3.	(a) 1000	(b) 2000	(c) 8000	(d) 4000	(e) 35,000
	(f) 19,000	(g) 24,000	(h) 35,000		
4.	(a) 40,000	(b) 80,000	(c) 80,000	(d) 70,000	(e) 60,000
	(f) 90,000	(g) 90,000	(h) 60,000		

MCQs

1. c, 2. a, 3. c, 4. b,

Text Exercise

1.	(a) four	(b) 100	(c) 89,999	(d) 1,00,000	(e) 9999
2.	(a) ones	(b) thousands	(c) 45,000	(d) 9999	(e) in 50,000

3. (a) $70,000 + 2000 + 0 + 30 + 8$
   (b) $40,000 + 2000 + 500 + 0 + 9$
4. (a) 19,808 (b) 88,647
5. (a) 37,000 (b) 26,800 (c) 20,000
6. (a) 32,309 (b) 25,799 (c) 49,999
7. (a) 7620, 7720, 7820, 7920, 8020, 8120
   (b) 54,947; 55,047; 55,147; 55,247; 55,347; 55,447
8. (a) $48 < 84 < 88 < 578 < 754 < 874$
   (b) $60666 < 66066 < 66606$

3 Roman Numerals

Exercise - 3.1

1.	(a) VII	(b) IX	(c) XIII	(d) XVI	(e) XIX
	(f) XXI	(g) XXX	(h) XXIV	(i) XXVIII	(j) XXXIV
	(k) XXXIX	(l) XXIX	(m) XL	(n) XLVII	(o) LVII
	(p) LXVIII	(q) LXXV	(r) LXXXIX	(s) XCVII	(t) C
	(u) LIX	(v) LXXVIII	(w) LXV	(x) XLIII	
2.	(a) 3	(b) 7	(c) 4	(d) 9	(e) 16
	(f) 19	(g) 24	(h) 29	(i) 34	(j) 25
	(k) 42	(l) 44	(m) 39	(n) 55	(o) 76
	(p) 84	(q) 90	(r) 95	(s) 48	(t) 69
	(u) 94	(v) 49	(w) 99	(x) 54	
3.	(a) ✗	(b) ✓	(c) ✓	(d) ✗	(e) ✗
	(f) ✓	(g) ✗	(h) ✗		

4. a. 6 = VI, IV b. 10 = VV, X c. 4 = IIII, IV

d. 11 = VI, XI e. 14 = XIV, XVI f. 15 = VX, XV

g. 95 = XCV, LXLV h. 79 = LXXIX, IXLXX i. 30 = XXX, XXL

5. (a) ii (b) i (c) v (d) iii (e) iv

6. a. VII → VIII b. XVIII → XIX c. XIX = XX

d. XXIV → XXV e. XLIX → L f. XXXIX = XL

g. LXIX = LXX h. LXXXIX = XC

7. a. IV → V b. IX → X c. XVIII → XIX

d. XXXIX → XL e. XLIX → L f. XXIX → XXX

g. LXIV → LXV h. LXXXIX → XC

8. a. IX < XI b. XX > XIX c. LX > XL

d. L > XLV e. XXXIII < XL f. LXXXIX < XC

g. C > XCIX h. C > LXXXVIII i. XIX < XXI

j. XXIX = XXIX k. XLV > XLIV l. XXXVII < XLVI

9. a. 50 = L b. 42 > XXVI c. XLIV < 47

d. XLV < 49 e. XXXI = 24 + 7 f. 36 + 3 < LXVIII

10. (a) XXXIV, XXXV, XXXVII, XXXVIII, XXXIX

(b) XLI, XLII, XLIII, XLIV, XLV

(c) XXIX, XXVIII, XXVII, XXVI, XXV, XXIV, XXIII

11. (a)

XXXVII	=	37	
IX	=	+ 9	
		46	= XLVI

(b)

XL	=	40	
IX	=	+ 9	
		49	= XLIX

(c)

XLVIII	=	48	
II	=	+ 2	
		50	= L

(d)

XLIV	=	44	
V	=	+ 5	
		49	= XLIX

(e)

XLI	=	41	
IV	=	+ 4	
		45	= XLV

(f)

XI	=	11	
XXXVI	=	+36	
		47	= XLVII

12. a. XXX – XXIV = VI b. L – XL = X c. XL ÷ X = IV

d. XLIV – XI = XXXIII e. XLI + IX = L f. XLV – V = XL

13. (a) three (b) L (c) X, once (d) L, once

14. (a) XXI < XXXI < XLI < XLV < L (b) XXII < XXXII < XLII < XLIX

15. (a) XLVIII > XLVII > XLIV > XXXIII > XXIII

(b) XLIII > XXXVI > XXXV > XXXIV > XXIV

Test Exercise

a.	16	=	10 + 6	=	XVI
b.	19	=	10 + 9	=	**XIX**
c.	29	=	20 + 9	=	**XXIX**
d.	14	=	**10 + 4**	=	**XIV**
e.	18	=	**10 + 8**	=	**XVII**
f.	35	=	**30 + 5**	=	**XXXV**
g.	33	=	**30 + 3**	=	**XXXIII**
h.	38	=	**30 + 8**	=	**XXXVIII**
i.	34	=	**30 + 4**	=	**XXXIV**
j.	39	=	**30 + 9**	=	**XXXIX**

2.

II	VI	IX	XI	XIV	VIII	XV	XXI	XVII	XXIV	XXIX	XXXIV
2	**6**	**9**	**11**	**14**	**8**	**15**	**21**	**17**	**24**	**29**	**34**

3.

3	6	9	4	12	14	18	22	19	25	29	34	37
III	VI	IX	IV	XII	XIV	XVIII	XXII	XIX	XXV	XXIX	XXXIV	XXXVII

4. a. VI > IV b. VI < VIII

c. XV < XX d. XV > XIII

e. V > IV f. XIX < XX

5. (a) XI > IX > VIII > VI > IV

(b) XX > XVI > XIV > X > IX > VIII

6. (a)  9:15 (b)  10:30 (d)  9:10 (d)  8:25

MENTAL MATHS

	a. **X**	b. **X**	**X**	**I**
c. **X**	**V**	**I**		
X				
d. **X**	e. **I**	f. **X**		
	g. **X**	**X**	**I**	**X**

4 Addition

Exercise - 4.1

1. a.

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

b.

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

c.

	H	T	O
	6	0	8
+	2	8	2
	8	9	0

d.

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

e.

	H	T	O
	3	7	4
+	2	8	6
	6	6	0

f.

	Th	H	T	O
	3	8	9	4
+	4	9	3	6
	8	8	3	0

g.

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

h.

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

i.

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

j.

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

k.

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

l.

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

m.

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

n.

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

o.

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

2. a. 56 + 41 = 97 b. 69 + 21 = 98
c. 37 + 21 = 58 d. 42 + 37 = 79
e. 81 + 12 + 11 = 104
f. 67 + 55 + 14 = 136

Exercise - 4.2

1. a.

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

b.

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

c.

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

d.

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

e.

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

f.

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

g.

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

h.

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

i.

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

j.

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

k.

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

l.

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

2. a.

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

b.

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

c.

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

d.

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

e.

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

f.

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

g.

	TL	L	TTh	Th	H	T	O
	3	2	3	4	2	3	4
	1	2	4	2	2	5	2
+	1	0	1	3	4	0	1
	5	4	8	9	8	8	7

h.

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

i.

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

j.

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

3.

a.

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

b.

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

c.

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

d.

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

e.

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

f.

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

Exercise - 4.3

1.

a.

	TTh	Th	H	T	O
	6	7	6	5	7
+	2	4	5	6	9
	9	2	2	2	6

b.

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

c.

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

d.

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

e.

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

f.

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

2.

a.

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

b.

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

c.

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

d.

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

e.

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

f.

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

g.

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

h.

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

i.

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

j.

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

k.

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

l.

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

3. a.

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

b.

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

c.

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

d.

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

e.

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

f.

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

g.

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

h.

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

i.

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

j.

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

Exercise - 4.4

1.

a. 43258	b. 13463	c. 12328	d. 12374
e. 41419, 14227	f. 21634, 34752	g. 34041	h. 12142
i. 45074	j. 24097	k. 22164	l. 15144
m. 36952	n. 0	o. 32274	p. 25874
q. 0	r. 32476		

Exercise - 4.5

1. a.

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

b.

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

c.

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

d.

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

e.

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

f.

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

Exercise - 4.6

1. a.

2	1	4	4	0
+ 3	6	5	6	0
5	8	0	0	0

b.

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

c.

3	8	4	2	0
+ 3	4	4	0	0
7	2	8	2	0

d.

3	9	9	6	0
+ 4	2	2	0	0
8	2	1	6	0

e. Sold cars Ist year = 25875 =

Sold cars IInd year = 22571 =

Cars sold by company

2	5	8	8	0
+ 2	2	5	7	0
4	8	4	5	0

2. a.

2	3	9	0	0
+ 3	5	6	0	0
5	9	5	0	0

b.

4	5	6	0	0
+ 5	3	9	0	0
9	9	5	0	0

c.

2	5	9	0	0
+ 1	4	8	0	0
4	0	7	0	0

d.

3	5	4	0	0
+ 2	7	1	0	0
6	2	5	0	0

e. runs made in test match = 20600 =

runs made one day = 36997 =

Runs made in all

2	0	6	0	0
+ 3	7	0	0	0
5	7	6	0	0

3. a.

1	9	0	0	0
+ 3	7	0	0	0
5	6	0	0	0

b.

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

c.

1	0	0	0	0
+ 2	1	0	0	0
3	1	0	0	0

d.

	5	1	0	0	0
+	4	1	0	0	0
	9	2	0	0	0

e. People visited Ist day (43719) =
People visited IInd day (24189) =
People visited in two days =

	4	4	0	0	0
+	2	4	0	0	0
	6	8	0	0	0

4. a.

	2	0	0	0	0
+	4	0	0	0	0
	6	0	0	0	0

b.

	2	0	0	0	0
+	5	0	0	0	0
	7	0	0	0	0

c.

	2	0	0	0	0
+	6	0	0	0	0
	8	0	0	0	0

d.

	5	0	0	0	0
+	3	0	0	0	0
	8	0	0	0	0

e. People has coins (29321) =
His brother has coins (12283) =
Numbers of coins =

	3	0	0	0	0
+	1	0	0	0	0
	4	0	0	0	0

Exercise - 4.7

1. Blue Bulbs produced 366115
Red Bulbs produced +433999
Total bulb produced 800114

2. English books in library 24600
Hindi books in library +62575
Total books in library 87175

3. In village men = 32126
In village women = 29089
In village children = +16321
Total population 77536

4. Largest five digit number 99999
Smallest six digit number +10000
We get 199999

5. Cost of TV = ₹ 22640
more cost = ₹ +5688
Cost of scotter = ₹ 28328
Total cost of both 28328 + 22640 = ₹ 50968

6.	In Shop Pairs of Jeans	=	32482
	In shop Pairs of Shirts	=	21921
	In shop Pairs of T-Shirts	=	+18254
	Total Clothes	=	72657
7.	Paid for carpenter	=	₹ 33629
	paid for Camera	=	₹ + 4213
	Total Amount Paid	=	₹ 37842
8.	Passenger travelled by Metro	=	18463
	Passenger travelled by bus	=	+17634
	Total Passengers travelled	=	36097
9.	Spent on Car	=	₹ 386123
	Spent on Aeccessories	=	₹ +86169
	Total Cost	=	₹ 472252
10.	Books in Library	=	72100
	More books bought	=	+8900
	Total books in Library	=	81000
11.	In village cows	=	23478
	In village buffaloes	=	27978
	In village goats	=	+13765
	Total milking animals	=	65221
12.	Money spent on air travel	=	₹ 35561
	Money spent on hotels	=	₹ 34350
	Money spent on sight seeing	=	₹ +25450
	Total money spent altogether	=	₹ 95361
13.	Lemon bottles sold	=	13467
	Orange bottles sold	=	5784
	Cola bottles sold	=	+28543
	Total bottles sold	=	47794
14.	In godown rice bags	=	22528
	In godown wheat bags	=	15345
	In godown sugar bags	=	+8975
	Total number of bags	=	46848
15.	Seats in stadium	=	15750
	More Seats arranged	=	+6850
	Total seats in stadium	=	22600

16.	Money in bank	=	₹ 12375
	Money deposited more	=	₹ +15795
	Money in account	=	₹ 28170
17.	Books in Library	=	24573
	Now Books added in Library	=	+9765
	Total books in library	=	34338
18.	Cost of computer	=	₹ 26785
	More cost of Motor Cycle	=	₹ +14475
	Cost of Motor Cycle	=	₹ 41250
	Cost of both 41250 + 26785 = ₹68045		
19.	Boys appeared in Competition	=	45367
	Girls appeared in Competition	=	+39184
	Total students appeared in Competition	=	84551
20.	Valid votes	=	64235
	Votes rejected	=	2796
	Voter not voted	=	+7985
	Total voters	=	75016

MCQs

1. b. (999 + 100000 = 100999)
2. b. (654871 + 10000 = 664871)
3. c. (99999 + 100 = 100099)
4. a. (500 + 150 = 650)

Test Exercise

1.

(a) 111	(b) 1110	(c) 6523	(d) 10,000	(e) 500
(f) 1200	(g) 4600	(h) 1253	(i) 555	(j) 400
(k) 370	(l) 162	(m) 200	(n) 155	(o) 1099
(p) 1700	(q) 15679	(r) 17890	(s) 14050	(t) 20125
(u) 240	(v) 235	(w) 3000	(x) 8245	

2. 999 + 9999 = 999
+9999
10998

3. 9999 + 10000 = 10000
+9999
19999

4. 1000 + 10000 = 10000
+1000
11000

5. Cost of Scooter = ₹ 40000
Cost of Motorcycle more = ₹ + 9000
Cost of Motorcycle = ₹ 49000
Cost of Scooter = ₹ 40000
Total Cost = ₹ 89000

6. Cost of T.V Set = ₹ 18250
Cost of Sofa Set = ₹ +12750
Total Cost = ₹ 31000

7. a.

	4	2	1	0	$\boxed{2}$
+	2	$\boxed{4}$	3	5	6
+	$\boxed{2}$	2	7	$\boxed{3}$	1
	8	9	1	8	9

b.

	2	1	2	$\boxed{2}$	1
+	2	7	$\boxed{2}$	4	$\boxed{4}$
+	$\boxed{2}$	3	5	1	3
	7	1	9	7	8

c.

	3	$\boxed{2}$	3	4	6
+	1	2	2	1	$\boxed{1}$
+	$\boxed{3}$	4	5	$\boxed{3}$	2
	7	9	0	8	9

8. (a) 5 hundreds + 6 hundreds + 8 hundreds
= 19 hundreds
1 thousand 9 hundreds
(b) 4 thousands + 25 hundreds
4000 + 2500 = 6500
6 thousands 5 hundreds
(c) 7 ten thousands + 27 thousands
70,000 + 27,000 = 97,000
9 ten-thousands 7 thousands
(d) 15 tens + 25 tens + 8 tens = 48 tens
= 4 hundreds 8 tens

5 Subtraction

Exercise - 5.1

1. a.

Th	H	T	O
8	7	4	2
– 1	3	4	1
7	4	0	1

b.

Th	H	T	O
5	4	8	9
– 4	7	9	0
0	6	9	9

c.

Th	H	T	O
9	2	5	7
– 6	8	5	7
2	4	0	0

d.

Th	H	T	O
6	4	6	3
– 2	3	1	1
4	1	5	2

e.

Th	H	T	O
2	2	3	7
– 2	3	1	
2	0	0	6

f.

Th	H	T	O
9	4	5	6
– 5	2	2	4
4	2	3	2

2.

a.

	T	O
	3	6
–	1	2
	2	4

b.

	H	T	O
	1	4	9
–	1	2	3
	0	2	6

c.

	Th	H	T	O
	4	3	1	6
–	1	2	0	1
	3	1	1	5

d.

	Th	H	T	O
	5	8	2	4
–	1	6	5	9
	4	1	6	5

e.

	Th	H	T	O
		1	5	1
–		1	0	2
		0	4	9

f.

	Th	H	T	O
	6	8	7	1
–	2	1	0	6
	4	7	6	5

Exercise - 5.2

1.

a.

	TTh	Th	H	T	O
	6	5	6	1	3
–	4	2	5	0	2
	2	3	1	1	1

b.

	TTh	Th	H	T	O
	7	8	8	4	6
–	6	4	7	3	2
	1	4	1	1	4

c.

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

d.

	L	TTh	Th	H	T	O
	8	5	8	9	3	2
–	8	4	3	2	1	0
	0	1	5	7	2	2

e.

	L	TTh	Th	H	T	O
	4	5	7	8	9	5
–	2	2	5	1	1	2
	2	3	2	7	8	3

f.

	L	TTh	Th	H	T	O
	8	1	8	6	9	8
–	5	0	5	2	7	6
	3	1	3	4	2	2

g.

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

h.

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

i.

	TTh	Th	H	T	O
	7	3	4	9	4
–	4	2	1	6	4
	3	1	3	3	0

j.

	TTh	Th	H	T	O
	8	5	4	3	6
–	4	3	2	1	5
	4	2	2	2	1

k.

	L	TTh	Th	H	T	O
	3	8	9	6	3	4
–	2	5	2	5	2	1
	1	3	7	1	1	3

l.

	L	TTh	Th	H	T	O
	4	6	4	0	5	0
–	3	4	2	0	3	0
	1	2	2	0	2	0

m.

	L	TTh	Th	H	T	O
	5	6	5	9	6	5
–	3	3	2	5	5	5
	2	3	3	4	1	0

n.

	L	TTh	Th	H	T	O
	3	6	7	4	5	5
–	2	5	2	0	0	3
	1	1	5	4	5	2

o.

	L	TTh	Th	H	T	O
	8	6	5	4	9	8
–	4	6	1	2	3	5
	4	0	4	2	6	3

2. a.

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

b.

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

c.

	TTh	Th	H	T	O
	5	4	9	9	9
–	4	2	0	6	9
	1	2	9	3	0

d.

	L	TTh	Th	H	T	O
		6	4	6	9	5
		–	3	4	6	3
		6	1	2	3	2

e.

	L	TTh	Th	H	T	O
		9	9	9	9	9
					–	1
		9	9	9	9	8

f.

	L	TTh	Th	H	T	O
		6	4	6	7	9
	–	6	3	5	6	9
		0	1	1	1	0

g.

	TTh	Th	H	T	O
	6	7	6	6	9	8
–	3	4	3	5	3	4
	3	3	3	1	6	4

h.

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

i.

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

j.

	TTh	Th	H	T	O
	3	4	8	9	8	6
		–	5	6	8	6
	3	4	3	3	0	0

k.

	L	TTh	Th	H	T	O
	9	6	8	4	9	7
–	8	5	4	3	8	6
	1	1	4	1	1	1

l.

	L	TTh	Th	H	T	O
	4	9	7	6	9	9
–	3	8	6	5	9	9
	1	1	1	1	0	0

Exercise - 5.3

1. a.

	TTh	Th	H	T	O
	4	6	7	8	9
–	2	0	5	3	2
	2	6	2	5	7

b.

	TTh	Th	H	T	O
	3	8	9	0	2
–	1	4	9	0	1
	2	4	0	0	1

c.

	TTh	Th	H	T	O
	6	8	9	4	8
–	2	4	5	2	9
	4	4	4	1	9

d.

TTh	Th	H	T	O
7	3	6	5	7
− 2	3	4	0	9
5	0	2	4	8

e.

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

f.

TTh	Th	H	T	O
3	1	9	7	2
− 2	0	5	8	9
1	1	3	8	3

g.

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

h.

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

i.

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

j.

TTh	Th	H	T	O
6	8	5	3	2
− 2	7	7	9	8
4	0	7	3	4

k.

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

l.

TTh	Th	H	T	O
8	6	5	0	0
− 2	3	1	7	9
6	3	3	2	1

m.

L	TTh	Th	H	T	O
4	4	4	1	8	7
− 3	4	6	7	9	9
	9	7	3	8	8

n.

L	TTh	Th	H	T	O
3	6	2	4	3	1
− 2	4	8	5	7	2
1	1	3	8	5	9

o.

L	TTh	Th	H	T	O
7	3	4	3	4	0
− 4	2	8	5	8	3
3	0	5	7	5	7

p.

L	TTh	Th	H	T	O
5	1	6	0	0	0
− 3	2	8	2	4	9
1	8	7	7	5	1

q.

L	TTh	Th	H	T	O
5	5	4	0	2	0
− 3	5	6	9	7	5
1	9	7	0	4	5

r.

L	TTh	Th	H	T	O
1	5	3	0	0	5
−		5	7	9	8 7
		9	5	0	1 8

2. a.

L	TTh	Th	H	T	O
3	2	6	2	3	5
− 1	2	8	7	4	6
1	9	7	4	8	9

b.

L	TTh	Th	H	T	O
6	3	4	2	3	6
− 4	3	7	7	8	9
1	9	6	4	4	7

c.

L	TTh	Th	H	T	O
7	0	3	2	8	9
− 4	1	8	7	9	0
2	8	4	4	9	9

d.

L	TTh	Th	H	T	O
5	1	5	1	2	3
− 2	2	8	7	5	8
2	8	6	3	6	5

e.

L	TTh	Th	H	T	O
6	8	2	3	0	4
− 5	5	7	7	5	6
1	2	4	5	4	8

f.

L	TTh	Th	H	T	O
7	0	6	0	0	0
− 5	2	8	5	6	4
1	7	7	4	3	6

g.

L	TTh	Th	H	T	O
4	1	4	0	0	0
− 2	1	8	9	3	2
1	9	5	0	6	8

h.

L	TTh	Th	H	T	O
5	3	8	0	0	0
−			9	7	5 6
5	2	8	2	4	4

i.

L	TTh	Th	H	T	O
5	0	0	0	0	0
−		3	6	3	4 7
4	6	3	6	5	3

j.

L	TTh	Th	H	T	O
6	0	0	0	0	0
−		2	4	8	9 2
5	7	5	1	0	8

k.

L	TTh	Th	H	T	O
7	0	0	0	0	0
−		1	8	2	4 5
6	8	1	7	5	5

l.

L	TTh	Th	H	T	O
		3	0	0	0 0
−		1	9	7	5 6
		1	0	2	4 4

Exercise - 5.4

1. (a) 32,552 (b) 63,142 (c) 0 (d) 0 (e) 83814
(f) 0 (g) 0 (h) 0 (i) 12376 (j) 63214
(k) 92589 (l) 63241

Exercise - 5.5

1.	Anjali had	=	₹ 12506
	Spent on DVD	=	₹ − 3946
	Money left	=	₹ 08560
2.	People in town	=	49652
	People moved away	=	−6998
	People left in town	=	42654
3.	Frogs in pond	=	923966
	Fishes in pond	=	−846649
	Frogs more than fishes	=	077317
4.	Farmer have apples	=	61322
	Apples sold	=	−19817
	Apples left	=	41505
5.	Pradeep earned	=	₹ 649530
	gave to his brother	=	₹ −349990
	money saved by Pradeep	=	₹ 299540
6.	Population of town	=	86428
	Females	=	−47039
	Males	=	39389
7.	Alice had in bank	=	₹ 50700
	Alice withdrew	=	₹ −34950
	Money left in account	=	₹ 15750
8.	Cost of motorcycle	=	₹ 52500
	Cost of scooter	=	₹ −38750
	Motorcycle cost more by	=	₹ 13750
9.	Trees along road	=	₹ 28123
	Trees destroyed	=	₹ −9245
	Trees left	=	₹ 18878
10.	Population becomes after 10 years	=	54389
	Population before 10 years	=	−26456
	10 population increase	=	27993

11.	Total milk bottles	=	30000
	bottles sold	=	−23125
	bottles left	=	6875
12.	Mathematics books	=	22000
	books left	=	−412
	books sold	=	21588
13.	Students appeared in examination	=	71855
	Students failed	=	−27968
	students passed	=	43887
14.	greater number	=	35072
	difference	=	−16895
	smaller number	=	18177
15.	larger number	=	61132
	difference	=	−27896
	smaller number	=	33236

Exercise - 5.6

1.

a.
```
  32136
+ 15220
-------
  47356
- 21742
-------
  25614
```

b.
```
  64144
+ 14280
-------
  78424
- 42921
-------
  35503
```

c.
```
  73653
+ 34440
-------
  39213
- 22148
-------
  61361
```

d.
```
  40458
+ 11404
-------
  29054
- 23816
-------
  52870
```

e.
```
  14473
+ 66295
-------
  80768
- 49429
-------
  31339
```

f.
```
  12874
+ 61742
-------
  74616
- 40741
-------
  33875
```

2.	Mr George had	=	₹ 78963
	Withdraw in morning	=	₹ −23852
	left	=	₹ 55111
	deposited in the evening	=	₹ +17821
	balance	=	₹ 72932
3.	Water in reservoir	=	47892l
	Water added in reservoir	=	+23941l
	total water reservoir	=	71833l
	water released	=	−48635l
	water in reservoir now	=	23198l

4.	Wheat bags in godown	=	36852
	bags received	=	+47325
	total bags in godown	=	84177
	bags supplied	=	−62854
	bags left	=	21323
5.	Oil loaded at sea port	=	35241 barrels
	Oil loaded at IInd port	=	+12842 barrels
	Total oil	=	48083 barrels
	Oil delivered	=	−22874 barrels
	Oil left in Tanker	=	25209 barrels
6.	Wheat bags in godown	=	9569
	Bags taken out on Monday	=	−2564
		=	7005
	Bags taken out on Tuesday	=	−6696
	bags left	=	309
7.	Length of wire	=	50000m
	Ist piece cut out	=	−22634m
		=	27366m
	IInd piece cut out	=	−27266m
	wire left	=	140m
8.	Total votes polled	=	52526
	Ist candidates got	=	−38525
		=	14001
	IInd Candidate got	=	−5526
	IIIrd Candidate got	=	8475 votes
9.	Mr Balwant had	=	₹ 100000
	Spent on computer	=	₹ − 45500
	remaining	=	₹ 54500
	Spent on television	=	₹ − 8550
	Money left	=	₹ 45950
10.	Petrol in Pump	=	98000l
	Petrol Sold on Is day	=	− 5655l
	left	=	92345l
	Petrol Sold on IInd day	=	−15666l
	left	=	76679l
	Petrol Sold on IIIrd day	=	−38565l
	Petrol left after 3rd day	=	38114l

Exercise - 5.7

1. a.

8	2	0	0	0
− 3	7	0	9	0
4	4	9	1	0

b.

7	1	2	7	0
− 5	1	5	4	0
1	9	7	3	0

c.

4	0	8	6	0
− 2	0	7	7	0
2	0	0	9	0

d.

5	0	4	9	0
− 4	1	0	1	0
	9	4	8	0

e. People visited on Ist day (58741) =
People visited on IInd day (39528) =
More visitor visited on day II =

5	8	7	4	0
− 3	9	5	3	0
1	9	2	1	0

2. a.

8	2	4	0	0
− 5	3	4	0	0
2	9	0	0	0

b.

6	4	6	0	0
− 2	1	4	0	0
4	3	2	0	0

c.

7	2	3	0	0
− 5	3	4	0	0
1	8	9	0	0

d.

3	4	2	0	0
− 2	3	6	0	0
1	0	6	0	0

e. Mohan has coins (23487) =
His brother has coins (14223) =
Mohan has more coins by =

2	3	5	0	0
− 1	4	2	0	0
	9	3	0	0

3. a.

7	7	0	0	0
− 3	3	0	0	0
4	4	0	0	0

b.

4	5	0	0	0
− 1	2	0	0	0
3	3	0	0	0

c.

9	4	0	0	0
− 2	1	0	0	0
7	3	0	0	0

d.

9	7	0	0	0
− 3	2	0	0	0
6	5	0	0	0

e. Visitors in week (90148) =
Visitors on Saturdays + Sunday (56921) =
Footfalls in first five days =

9	0	0	0	0
− 5	7	0	0	0
3	3	0	0	0

4. a.

5	0	0	0	0
− 1	0	0	0	0
4	0	0	0	0

b.

5	0	0	0	0
− 3	0	0	0	0
2	0	0	0	0

c.

8	0	0	0	0
− 3	0	0	0	0
5	0	0	0	0

d.

8	0	0	0	0
− 4	0	0	0	0
4	0	0	0	0

e. Mall footfalls in a week (70888) =
Mall footfalls on last two days (28079) =
foot falls in first fivedays =

7	0	0	0	0
− 3	0	0	0	0
4	0	0	0	0

MCQs

1. c. (90000 – 1 = 89999)
2. a. (100000 – 100000 = 0)
3. a. (100000 – 60606 = 39394)
4. b. (8000 – 800 = 7200)

Test Exercise

1. a.

1	4	0	0
−	9	0	0
	5	0	0

b.

1	1	5	7	2
−	6	0	0	0
	5	5	7	2

c.

5	0	0	0	0
− 3	0	0	0	0
2	0	0	0	0

d.

1	2	7	1	0
	−	7	0	0
1	2	0	0	1 0

e.

1	5	6	8	7
−	1	0	0	0
1	4	6	8	7

f.

3	7	9	0	0
− 1	0	0	0	0
2	7	9	0	0

g.

1	0	0	0	0
			−	1
	9	9	9	9

h.

	2	0	0	0
−	1	9	9	9
				1

i.

	1	0	0	0
	−	1	0	0
		9	0	0

j.

	1	0	0	0
			−	0
	1	0	0	0

k.

	1	0	0	5
	−	1	0	5
		9	0	0

l.

6	0	0	0	0
− 6	0	0	0	0
				0

2. a. 9 tens + 6 ones
8 tens + 1 ten + 6 ones
8 tens + 10 ones + 6 ones
8 tens + $\boxed{16}$ ones

b. 5 hundred + 7 tens
4 hundred + 1 hundred + 7 tens
4 hundred + 10 tens + 7 tens
4 hundred + $\boxed{17}$ tens

c. 8 hundred + 4 tens
7 hundred + 1 hundred + 4 tens
7 hundred + 10 tens + 4 tens
$\boxed{7}$ hundred + 14 tens

d. 5 thousands + 3 hundreds
4 thousands + 1 thousand + 3 hundred
4 thousands + 10 hundred + 3 hundred
4 thousands + $\boxed{13}$ hundred

e. 4 ten thousands + 7 thousands
3 ten thousands + 1 ten thousands + 7 thousands
3 ten thousands + 10 thousands + 7 thousands
3 ten thousands + $\boxed{17}$ thousands

f. 6 thousands + 8 tens
5 thousands + 1 thousands + 8 tens
5 thousands + $\boxed{10}$ hundreds + 8 tens

3. a. 4899 (4900 – 1) b. 949 (950 – 1)
c. 11567 (12567 – 1000) d. 90 (105 – 15)
e. 89 (105 – 12) f. 999 (1000 – 1)
g. 2000 (10000 – 8000) h. 900 (1008 – 108)

6 Multiplication

Exercise - 6.1

1. a.

Th	H	T	O
		6	7
		×	2
	1	3	4

b.

Th	H	T	O
	7	1	3
		×	5
3	5	6	5

c.

Th	H	T	O
	2	3	5
		×	7
1	6	4	5

d.

Th	H	T	O
4	6	7	3
		×	2
9	3	4	6

e.

Th	H	T	O
	9	6	8
		×	5
4	8	4	0

f.

Th	H	T	O
	5	4	6
		×	7
3	8	2	2

Exercise - 6.2

1. a. 0 b. 0 c. 28

   d. 928 e. 413 f. 68

2. a.

```
  15        3
 ×3       ×15
 ---      ---
 45        15
           3×
          ---
           45
```

$\because$ $15 \times 3 = 3 \times 15 = 45$
Commutative Properly

b.

```
  36        7
 ×7       ×36
 ---      ---
 252       42
           21×
          ---
          252
```

$\because$ $36 \times 7 = 7 \times 36 = 252$
Commutative Properly

c.

```
  34        9
 ×9       ×34
 ---      ---
 306       36
           27×
          ---
          306
```

$\because$ $34 \times 9 = 9 \times 34 = 306$
Commutative Properly

d. $7 \times 8 = 56, 8 \times 7 = 56$

$\because 7 \times 8 = 8 \times 7 = 56$

Commutative Properly.

e.

```
  21        7
 ×7       ×21
 ---      ---
 147        7
           14×
          ---
          147
```

$\because$ $21 \times 7 = 7 \times 21 = 147$
Commutative Properly

f. $(3 \times 7) \times 6$ $(7 \times 3) \times 6$

21×6 21×6

126 126

$\because (3 \times 7) \times 6 = (7 \times 3) \times 6$

Associative Properly

g. $(8 \times 9) \times 6$ $(9 \times 8) \times 6$

72×6 72×6

436 = 436

$\because (8 \times 9 \times 6) = 9 \times 8 \times 6$

Associative Property

h. $14 \times 10 = 10$

$10 \times 14 = 140$

$\therefore 14 \times 10 = 10 \times 14 = 140$

Commutative Property

i. $3 \times 2 \times 1$; $2 \times 3 \times 1$

6×1 6×1

6 6

$3 \times 2 \times 1 = 2 \times 3 \times 1 = 6$

Associative Property

j. 4×2 ; 2×4

8 8

$4 \times 2 = 2 \times 4 = 8$

Commutative Property

Exercise - 6.3

1.

a.	762	×	10	=	**7620**	×	10	=	**76200**
b.	93	×	10	=	**930**	×	10	=	**9300**
c.	202	×	10	=	**2020**	×	10	=	**20200**
d.	140	×	10	=	**1400**	×	10	=	**14000**
e.	265	×	10	=	**2650**	×	10	=	**26500**
f.	454	×	10	=	**4540**	×	10	=	**45400**
g.	797	×	10	=	**7970**	×	10	=	**79700**
h.	1758	×	10	=	**17580**	×	10	=	**175800**

2.

a.	67×10	=	**670**	b.	4679×10	=	**46790**
c.	79×100	=	**7900**	d.	486×100	=	**48600**
e.	829×1000	=	**829000**	f.	19×1000	=	**19000**

3.

a.	1000	b.	4162	c.	872000
d.	23	e.	10	f.	100
g.	555550000	h.	184000		

4.

a. $91 \times 30 = 91 \times 3 \times 10$

273×10

2730

b. $218 \times 50 = 218 \times 5 \times 10$

1090×10

10900

c. 3122×20

$3122 \times 2 \times 10$

6244×10

62440

d. 630×500

$63 \times 5 \times 10 \times 100$

315×1000

315000

e. 98×200
$98 \times 2 \times 100$
196×100
19600

f. 313×400
$313 \times 4 \times 100$
1252×100
125200

g. 99×4000
$99 \times 4 \times 1000$
396×1000
396000

h. 1203×700
$1203 \times 7 \times 100$
8421×100
842100

i. 908×6000
$908 \times 6 \times 1000$
5448×1000
5448000

5. a. $10 \times 20 \times 30$
$1 \times 10 \times 2 \times 10 \times 3 \times 10$
$1 \times 2 \times 3 \times 10 \times 10 \times 10$
6×1000
6000

b. $40 \times 30 \times 50$
$4 \times 10 \times 3 \times 10 \times 5 \times 10$
$4 \times 3 \times 5 \times 10 \times 10 \times 10$
60×1000
60000

c. $10 \times 100 \times 4$
1000×4
4000

d. $150 \times 10 \times 50$
$15 \times 10 \times 10 \times 5 \times 10$
$15 \times 5 \times 10 \times 10 \times 10$
75×1000
75000

e. $120 \times 10 \times 20$
$12 \times 10 \times 10 \times 2 \times 10$
$12 \times 2 \times 10 \times 10 \times 10$
24×1000
24000

f. $50 \times 60 \times 90$
$5 \times 10 \times 6 \times 10 \times 9 \times 10$
$5 \times 6 \times 9 \times 10 \times 10 \times 10$
$30 \times 9 \times 1000$
$3 \times 10 \times 9 \times 1000$
$3 \times 9 \times 10 \times 1000$
27×10000
$2,70,000$

Exercise - 6.4

1. a.

Th	H	T	O
		4	5
	×	2	2
		9	0
	9	0	×
	9	9	0

b.

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

c.

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

d.

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

e.

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

f.

Th	H	T	O
	1	2	4
		×	2
	2	4	8

2.

a.

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

b.

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

c.

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

d.

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

e.

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

f.

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

3.

a.

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

b.

TTh	Th	H	T	O
	1	5	5	5
		×	4	5
	7	7	7	5
6	2	2	0	×
6	9	9	7	5

c.

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

d.

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

e.

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

f.

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

g.

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

h.

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

i.

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

j.

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

k.

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

l.

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

Exercise - 6.5

1. Cost of 1 printer ₹1685
Cost of 32 printer ₹1685 × 32
= ₹53920

TTh	Th	H	T	O
	1	6	8	5
		×	3	2
	3	3	7	0
5	0	5	5	×
5	3	9	2	0

2. Weight of 1 packet 485 g
Weight of 54 packets 485 × 54 gm
26190 gm
or 26 kg 190 gm

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

3. Fees of 1 month ₹4630
Fees of 12 months ₹4630 × 12
= ₹55,560

TTh	Th	H	T	O
	4	6	3	0
		×	1	2
	9	2	6	0
4	6	3	0	×
5	5	5	6	0

4. Weight of 1 sugar bag 240 kg
Weight of 673 sugar bag 240 × 673
161520 kg

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

5. Distance travelled in 1 hour = 182 km
Distance travelled in 235 hours = 182 × 235
42770 km

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

6. In 1 cinema hall persons can sit = 1825
In 210 cinema halls persons can sit 1825 × 210
383250

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

7. Cost of 1 cycle ₹ 665
Cost of 285 cycles ₹ 665 × 285
₹ 189525

	TTh	Th	H	T	O
			6	6	5
		×	2	8	5
		3	3	2	5
	5	3	2	0	×
1	3	3	0	×	×
1	8	9	5	2	5

8. Cost of 1 transistor set ₹ 257
Cost of 352 transistor sets ₹ 257 × 352
₹ 90464

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

9. In 1 day tin produced 568
In 297 days tin produced 568 × 297
168696

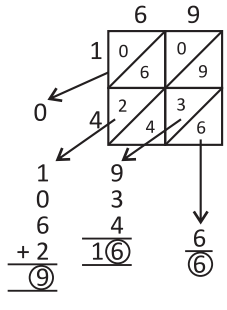
	TTh	Th	H	T	O
			5	6	8
		×	2	9	7
		3	9	7	6
	5	1	1	2	×
1	1	3	6	×	×
1	6	8	6	9	6

10. Fee paid by 1 pupil ₹ 155
Fee paid by 520 pupil ₹ 155 × 520
₹ 80600

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

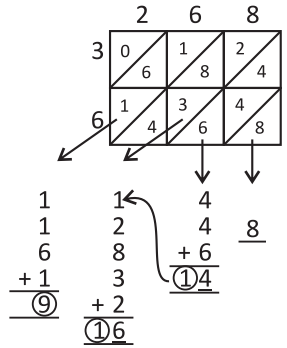
Exercise - 6.5

1. a.



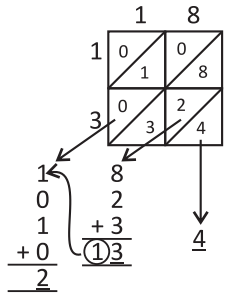
∵ 69 × 14 = 966

b.



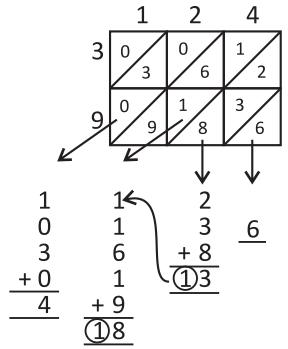
268 × 36 = 9648

2. a.



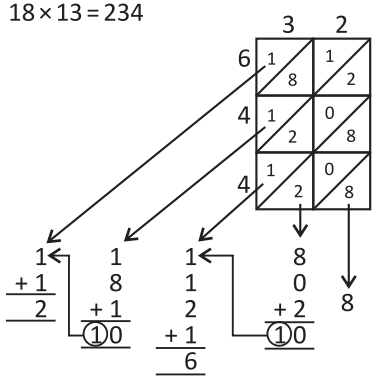
$18 \times 13 = 234$

b.



$124 \times 39 = 4836$

c.



$644 \times 32 = 20508$

MCQs

1. b. $89 \times 900 = 89 \times 9 \times 100$
   801×100
   80100

2. c. 1 week = 7 days = 7×24 hours
   = $7 \times 24 \times 60$ minutes
   = $7 \times 24 \times 60 \times 60$ seconds
   604800 seconds

3. b.

4. b. $3 \times 5 \times 7 \times 9 = 945$

5. b.

TTh	Th	H	T	O
	1	4	2	5
		×	2	8
1	1	4	0	0
2	8	5	0	×
3	9	9	0	0

7 Division

Exercise - 7.1

1. a.

```
        9
   7 ) 63
     – 63
      00
```

Quotient = 9
Remainder = 0

b.

```
        15
   6 ) 91
     – 6
      31
     – 30
      01
```

Quotient = 15
Remainder = 1

c.

```
        25
   5 ) 125
     – 10
       25
      –25
       00
```

Quotient = 25
Remainder = 00

d.

```
        11
   8 ) 89
     – 8
      09
     – 08
      01
```

Quotient = 11
Remainder = 1

e.

```
        11
   9 ) 105
     – 9
       15
      –09
       06
```

Quotient = 11
Remainder = 6

f.

```
        66
   4 ) 265
     – 24
       25
      –24
       01
```

Quotient = 66
Remainder = 01

2. a. $77 \div 11$

$77 - 11 = 66$ ①
$66 - 11 = 55$ ②
$55 - 11 = 44$ ③
$44 - 11 = 33$ ④
$33 - 11 = 22$ ⑤
$22 - 11 = 11$ ⑥
$11 - 11 = 0$ ⑦

$\therefore 77 \div 11 = 7$

b. $65 \div 13$

$65 - 13 = 52$ ①
$52 - 13 = 39$ ②
$39 - 13 = 26$ ⑤
$26 - 13 = 13$ ④
$13 - 13 = 0$ ⑤

$\therefore 65 \div 13 = 5$

c. $64 \div 8$

$64 - 8 = 56$ ①
$56 - 8 = 48$ ②
$48 - 8 = 40$ ③
$40 - 8 = 32$ ④
$32 - 8 = 24$ ⑤
$24 - 8 = 16$ ⑥
$16 - 8 = 8$ ⑦
$8 - 8 = 0$ ⑧

So, $64 \div 8 = 8$

3. a. $45 \div 5 = 9$ b. $54 \div 6 = 9$

c. $56 \div 8 = 7$ d. $63 \div 7 = 9$

4. a. $50 \div 8$

```
      6
8 ) 50
   – 48
     02
```

Verification
here Quotient = 6, Remainder = 2
Quotient × Divisor + Remainder
$6 \times 8 + 2$
$48 + 2$
50 = Divident

b.

```
      7
9 ) 68
   – 63
     05
```

Verification
here Quotient = 7, Remainder = 5
Quotient × Divisor + Remainder
$7 \times 9 + 5$
$63 + 5$
68 = Divident

c.

```
      9
9 ) 83
   – 81
     2
```

Verification
here Quotient = 9, Remainder = 2
Quotient × Divisor + Remainder
$9 \times 9 + 2$
$81 + 2$
83 = Divident

d.

```
      11
4 ) 46
   – 4
     06
   – 4
     2
```

Verification
here Quotient = 11, Remainder = 2
Quotient × Divisor + Remainder
$11 \times 4 + 2$
$44 + 2$
46 = Divident

e.

```
      21
4 ) 87
   – 8
     07
   – 4
     3
```

Verification
here Quotient = 21, Remainder = 3
Quotient × Divisor + Remainder
$21 \times 4 + 3$
$84 + 3$
87 = Divident

f.

```
      14
5 ) 73
   – 5
     23
   –20
     3
```

Verification
here Quotient = 14, Remainder = 3
Quotient × Divisor + Remainder
$14 \times 5 + 3$
$70 + 3$
73 = Divident

5. a. $156 \div 8$

$$\begin{array}{r} 19 \\ 8\,\overline{)\,156} \\ -\,8 \\ \hline 76 \\ -72 \\ \hline 4 \end{array}$$

Quotient = 19
Remainder = 4

b. $365 \div 6$

$$\begin{array}{r} 60 \\ 6\,\overline{)\,365} \\ -\,36 \\ \hline 05 \end{array}$$

Quotient = 60
Remainder = 5

c. $1748 \div 9$

$$\begin{array}{r} 194 \\ 9\,\overline{)\,1748} \\ -\,09 \\ \hline 84 \\ -81 \\ \hline 38 \\ -36 \\ \hline 2 \end{array}$$

Quotient = 194
Remainder = 2

d. $3269 \div 10$

$$\begin{array}{r} 326 \\ 10\,\overline{)\,3269} \\ -\,30 \\ \hline 26 \\ -20 \\ \hline 69 \\ -60 \\ \hline 9 \end{array}$$

Quotient = 326
Remainder = 9

Exercise - 7.2

1. a. 726 b. 1 c. 0
   d. 1978 e. 937 f. 0

2. a. $328 \div 5$

$$\begin{array}{r} 65 \\ 5\,\overline{)\,328} \\ -\,30 \\ \hline 28 \\ -25 \\ \hline 3 \end{array}$$

Verification
here Quotient = 65, Remainder = 3
Quotient × Divisor + Remainder
$65 \times 5 + 3$
$325 + 3$
328 = Divident

b. $617 \div 7$

$$\begin{array}{r} 88 \\ 7\,\overline{)\,617} \\ -\,56 \\ \hline 57 \\ -56 \\ \hline 1 \end{array}$$

Verification
here Quotient = 88, Remainder = 1
Quotient × Divisor + Remainder
$7 \times 88 + 1$
$616 + 1$
617 = Divident

c. $299 \div 6$

```
     49
6 ) 299
   – 24
     59
    –54
      5
```

Verification
here Quotient = 49, Remainder = 5
Quotient × Divisor + Remainder
$6 \times 49 + 5$
$294 + 5$
299 = Divident

d. $565 \div 9$

```
     62
9 ) 565
   – 54
     25
    –18
      7
```

Verification
here Quotient = 62, Remainder = 7
Quotient × Divisor + Remainder
$9 \times 62 + 7$
$558 + 7$
565 = Divident

3. a.

```
     1 7 3
5 ) 8 6 5
   – 5
     3 6
   – 3 5
       1 5
     – 1 5
         0
```

b.

```
     3 3 5
7 ) 2 3 4 5
   – 2 1
       2 4
     – 2 1
         3 5
       – 3 5
           0
```

c.

```
     4 0 2
4 ) 1 6 0 8
   – 1 6
     0 0
   – 0 0 0
         0 8
       – 0 8
           0
```

4.

a.
```
     134
  5 ) 670
    – 5
      17
     –15
      020
     –20
        0
```
Quotient = 134

b.
```
     87
  4 ) 348
    – 32
      28
     –28
       0
```
Quotient = 87

c.
```
     91
  8 ) 728
    – 72
      08
     –08
       0
```
Quotient = 91

d.
```
     90
  9 ) 810
    – 81
       0
```
Quotient = 90

e.
```
     421
  7 ) 2947
    – 28
      14
     –14
      07
     –07
       0
```
Quotient = 421

f.
```
     314
  7 ) 2198
    – 21
      09
     –07
      28
     –28
       0
```
Quotient = 314

g.
```
     753
  4 ) 3012
    – 28
      21
     –20
      12
     –12
       0
```
Quotient = 753

h.
```
     335
  3 ) 1005
    – 9
      10
     –9
      15
     –15
       0
```
Quotient = 335

i.
```
     215
  9 ) 1935
    – 18
      13
     –9
      45
     –45
       0
```
Quotient = 215

j.
```
     314
  4 ) 1256
    – 12
      05
     –04
      16
     –16
       0
```
Quotient = 314

k.
```
     443
  5 ) 2215
    – 20
      21
     –20
      15
     –15
       0
```
Quotient = 443

l.
```
     226
  6 ) 1356
    – 12
      15
     –12
      36
     –36
       0
```
Quotient = 226

m.
```
     224
  9 ) 2016
    – 18
      21
     –18
      36
     –36
       0
```
Quotient = 224

n.
```
     780
  4 ) 3120
    – 28
      32
     –32
      00
```
Quotient = 780

o.
```
     803
  8 ) 6424
    – 64
      24
     –24
       0
```
Quotient = 803

p.
```
     720
  8 ) 5760
    – 56
      16
     –16
      00
```
Quotient = 720

q.
```
     608
  8 ) 4864
    – 48
      64
     –64
      00
```
Quotient = 608

r.
```
     276
  6 ) 1656
    – 12
      54
     –42
      36
     –36
      00
```
Quotient = 276

s.
```
     413
  4 ) 1652
    – 16
      05
     –04
      12
     –12
      00
```
Quotient = 413

t.
```
     912
  9 ) 8208
    – 81
      10
     –09
      18
     –18
      00
```
Quotient = 912

Exercise - 7.3

1. a. 79 ÷ 10
   Quotient = 7
   Remainder = 9

   b. 424 ÷ 10
   Quotient = 42
   Remainder = 4

   c. 998 ÷ 10
   Quotient = 99
   Remainder = 8

   d. 9638 ÷ 100
   Quotient = 96
   Remainder = 38

   e. 5524 ÷ 100
   Quotient = 55
   Remainder = 24

   f. 3728 ÷ 100
   Quotient = 37
   Remainder = 28

2. a. 50 ÷ 10
   5

   b. 700 ÷ 10
   70

   c. 8800 ÷ 10
   880

   d. 680 ÷ 10
   68

   e. 6700 ÷ 100
   67

   f. 1200 ÷ 100
   12

   g. 4200 ÷ 100
   42

   h. 3600 ÷ 10
   360

Exercise - 7.4

1. a. $639 \div 3$

```
     213
  3 ) 639
    – 6
     03
    –03
     09
    –09
     00
```

Quotient = 213
Remainder = 0

b. $8791 \div 9$

```
     976
  9 ) 8791
    – 81
      69
     –63
      61
     –54
       7
```

Quotient = 976
Remainder = 7

c. $9456 \div 8$

```
     1182
  8 ) 9456
    – 8
     14
    –08
     65
    –64
      16
     –16
       0
```

Quotient = 1182
Remainder = 0

d. $3691 \div 5$

```
     738
  5 ) 3691
    – 35
      19
     –15
      41
     –40
      01
```

Quotient = 738
Remainder = 1

e. $9813 \div 3$

```
     3271
  3 ) 9813
    – 9
     08
    –06
      21
     –21
       3
     – 3
       0
```

Quotient = 3271
Remainder = 0

f. $8000 \div 6$

```
     1333
  6 ) 8000
    – 6
     20
    –18
      20
     –18
      20
     –18
       2
```

Quotient = 1333
Remainder = 2

2. a. $607 \div 17$

```
     35
 17 ) 607
    – 51
      97
    – 85
      12
```

Verification
here Quotient = 35, Remainder = 12
Divisor × Quotient + Remainder
$17 \times 35 + 12$
$595 + 12$
607 = Divident

b. $759 \div 15$

```
      50
15 ) 759
   – 75
     09
```

Verification
here Quotient = 50, Remainder = 9
Divisor × Quotient + Remainder
$15 \times 50 + 9$
$750 + 9$
759 = Divident

c. $348 \div 12$

```
      29
12 ) 348
   – 24
     108
    –108
       0
```

Verification
here Quotient = 29, Remainder = 0
Divisor × Quotient + Remainder
$12 \times 29 + 0$
$348 + 0$
348 = Divident

d. $3865 \div 16$

```
      241
16 ) 3865
   – 32
     66
    –64
      25
     –16
       9
```

Verification
here Quotient = 241, Remainder = 9
Divisor × Quotient + Remainder
$16 \times 241 + 9$
$3856 + 9$
3865 = Divident

e. $746 \div 18$

```
      41
18 ) 746
   – 72
     26
    –18
      8
```

Verification
here Quotient = 41, Remainder = 8
Divisor × Quotient + Remainder
$18 \times 41 + 8$
$738 + 8$
746 = Divident

f. $62817 \div 11$

```
      5710
11 ) 62817
   – 55
     78
    –77
      11
     –11
      07
```

Verification
here Quotient = 5710, Remainder = 7
Divisor × Quotient + Remainder
$11 \times 5710 + 7$
$62810 + 7$
62817 = Divident

Exercise - 7.5

1. 64 ÷ 12 or 60 ÷ 12 = 5
2. 96 ÷ 18 or 90 ÷ 18 = 5
3. 67 ÷ 29 or 58 ÷ 29 = 2
4. 286 ÷ 33 or 330 ÷ 33 = 10
5. 507 ÷ 29 or 464 ÷ 29 = 16
6. 929 ÷ 41 or 902 ÷ 41 = 22
7. 440 ÷ 29 or 435 ÷ 29 = 15
8. 3978 ÷ 18 or 3600 ÷ 18 = 200
9. 6842 ÷ 27 or 6831 ÷ 27 = 253
10. 9999 ÷ 33 or 9999 ÷ 33 = 303
11. 8888 ÷ 27 = 329
12. 7436 ÷ 13 = 572

Exercise - 7.6

1. People sitting in each section 1146 ÷ 6 = 191

```
     191
  6)1146
   – 6
     54
    –54
      06
     –06
       0
```

2. Other number 9780 ÷ 15 = 652

```
     652
 15) 9780
   – 90
     78
    –75
      30
     –30
       0
```

3.

```
     186
 34) 6354
   – 34
     295
    –272
      234
     –204
       30
```

186 balls will be filled in each box and 30 balls left behind.

4. Cost of 1 book = 8946 ÷ 18
= ₹497

```
     497
18 ) 8946
   – 72
     174
    –162
      126
     –126
        0
```

5. Weight of 54 bags = 6750 kg
Weight of 1 bag = 6750 ÷ 54
= 125 kg

```
     125
54 ) 6750
   – 54
     135
    –108
      270
     –270
        0
```

6. Number = divisor × quotient + remainder
24 × 263 + 19
6312 + 19
= 6331

```
   2 6 3
   × 2 4
 1 0 5 2
 5 2 6 ×
 6 3 1 2
```

7. 28 bags used
no shell remaining

```
     28
16 ) 448
   – 32
     128
    –128
      00
```

8. 34 pages is used
and 4 photoes remaining

```
     34
19 ) 650
   – 57
     80
    –76
      4
```

MCQs

1. a (765 ÷ 15 = 51)
2. b (400 ÷ 9 = 44 + 4)
3. c (1000 ÷ 5 = 200)
4. b (11111 ÷ 11) = 1010

Mental Maths

Total block used

2 × (most blocks) Red + 4 (least blue) + (2 + 3) 212 + 3 (green)

2 × 407 + 4 × 143 + 5 × 212 + 3 × 306

814 + 572 + 1060 + 918

3364 blocks used

8 Unitary Method

1. (a) 130 ÷ 10 = 13

   (b) Cost of 6 books = ₹60
   Cost of 1 book = ₹ 60 ÷ 6 = 10
   Cost of 3 books = 10 × 3 = ₹30

   (c) Cost of 8 l of milk = ₹288
   Cost of 1 l of milk = ₹ 288 ÷ 8 = 36
   Cost of 10 l of milk = ₹36 × 10
   ₹360

   (d) Weight of 2 bags = 18 kg
   Weight of 1 bag = 18 ÷ 2 = 9 kg
   Weight of 12 bags = 9 × 12 = 108 kg

2. In 6 hours minutes = 360
   In 1 hour minutes = 360 ÷ 6 = 60
   In 48 hours minutes = 60 × 48
   = 2880

3. In 4 boats people carried = 80
   In 1 boat people carried = 80 ÷ 4
   In 9 boats people carried = 20 × 9
   = 180

4. Cost of 8 laptops = ₹1,68,000
   Cost of 1 laptop = ₹1,68,000 ÷ 8
   = ₹21000
   Cost of 18 laptops = ₹21000 × 18
   = ₹3,78,000

5. Weight of 12 mangoes = 3060 g
   Weight of 1 mango = 3060 ÷ 12 g
   255 g

	Weight of 20 Mangoes	=	255 × 20		
		=	5100 g		
6.	Cost of 18 Shirts	=	₹5850		
	Cost of 1 shirt	=	₹5850 ÷ 18		
		=	₹325		
	Cost of 35 shirts	=	325 × 35		
		=	₹11375		
7.	In 4 hours car covers	=	240 km		
	In 1 hour car covers	=	240 ÷ 4		
		=	60 km		
	In 3 hours car covers	=	60 × 3		
		=	180 km		
8.	Fare for 15 persons	=	₹390		
	Fare for 1 person	=	₹390 ÷ 15		
		=	₹26		
	Fare for 26 persons	=	₹26 × 26		
		=	₹676		
9.	Cost of 20 registers	=	₹360		
	Cost of 1 registers	=	₹360 ÷ 20		
		=	₹180		
	Cost of 23 registers	=	₹180 × 23		
		=	₹ 4140		
10.	Cost of 15 Sarees	=	₹3045		
	Cost of 1 Saree	=	₹3045 ÷ 15		
		=	₹203		
	Cost of 5 Sarees	=	₹203 × 5		
		=	₹1015		
11.	5 litres of oil cost	=	₹105		
	1 litre of oil cost	=	₹105 ÷ 5	=	21
	3 litres of oil cost	=	₹21 × 3	=	63
12.	Fare for 6 persons	=	₹900		
	Fare for 1 person	=	₹900 ÷ 6		
		=	₹150		
	Fare for 4 persons	=	₹150 × 4		
		=	₹600		
13.	In 3 hours train travels	=	186 km		
	In 1 hour train travels	=	186 ÷ 3 km		
		=	62 km		
	In 2 hours train travels	=	62 × 2		
		=	124 km		

14. Cost of 15 ball point Pens = ₹60
Cost of 11 ball point Pen = ₹60 ÷ 15
= ₹4
Cost of 11 ball point Pens = ₹4 × 11
= ₹44

15. Cost of 9 kg of potatoes = ₹36
Cost of 1 kg of potatoes = ₹36 ÷ 9
= ₹4
Cost of 7 kg of potatoes = ₹4 × 7
= ₹28

16. In 5 boxes pencils = 150
In 1 box pencils = 150 ÷ 5
= 30
In 3 boxes pencils = 30 × 3
= 90

17. In 10 buses people travel = 500
In 1 bus people travel = 550 ÷ 10
= 50
In 7 buses people travel = 50 × 7
= 350

18. 15 Trucks carry bags = 3000
1 Truck carry bags = 3600 ÷ 15
= 200
8 travels bags carry = 200 × 8
= 1600

19. In 250 hours pots made = 500
In 1 hour pots made = 500 ÷ 250
= 2
In 105 hours pots made = 2 × 105
= 210

20. In 13 minutes frog leaps = 169 times
In 1 minute frog leaps = 169 ×13
= 13 times
In 11 minutes frog leaps = 13 × 11
143 times

MCQ

1. (b) 12 bananas costs = ₹48
1 banana costs = ₹48 ÷ 12
= ₹4
8 bananas costs = ₹4 × 8
= ₹32

2. (b) Cost of 5 boxes = $5 \times 9 = 45$ kg

3. (c) Cost of 10 boxes = ₹850

Cost of 1 book = ₹850 ÷ 10 = ₹85

Cost of 18 books = ₹85 × 18 = ₹1530

4. (a) Capacity of 8 buckets = 88 l

Capacity of 1 bucket 88 ÷ 8 = 11 l

Capacity of 17 buckets 11 × 17 = 187

Mental Maths

1. Cost/litre of milk = 72 ÷ 6

₹12

2. She sell = 768 ÷ 12

64 litres of milk

3. All cows give 5 × 5 = 25 litres of milk

4. Amount paid for 1 cow = ₹75000 ÷ 3

= ₹25000

5. Krishna Paid = ₹25000 × 5

= 1,25,000

9 Multiples and Factors

Exercise - 9.1

1. a. divisible b. 1

c. greater d. Infinite

2. a. 4 : 8, 12, 16, 20, 24

b. 8 : 16, 24, 32, 40, 48

c. 15 : 30, 45, 60, 75, 90

3. a.

```
      8
  8 ) 69
    - 64
      ---
        3
```

∴ 69 is not divisible by 8

∴ 69 is not multiple of 8

b.

```
      25
  5 ) 125
    - 10
      ---
       25
      -25
      ---
        0
```

∴ 125 is divisible by 5

∴ 125 is multiple of 5

4. a. Multiples of 2 = 2, 4, 6, 8, 10, 12, 14, 16, 18, 20

Multiples of 3 = 3, 6, 9, 12, 15, 18, 21, 24, 27, 30

b. Multiples of 6 = 6, 12, 18, 24, 30, 36, 42, 48, 54, 60

Multiples of 9 = 9, 18, 27, 36, 45, 54, 63, 72, 81, 90

5. a. True b. False c. True d. True

Exercise - 9.3

1. a. Multiples of 5 = 5, 10, 15, 20, 25, 30, 35, 40, 45, 50 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105

Multiples of 7 = 7, 14, 21, 28, 35, 42, 49, 56, 63, 70, 77, 84, 91, 98, 105

Common multiples of 5 and 7

= 35, 70, 105

LCM = 35

b. Multiples of 12 = 12, 24, 36, 48, 60, 72, 84, 96, 108, 120, 132, 144, 156, 168, 180, 192, 204, 216, 228, 240, 252 .... .

Multiples of 14 = 14, 28, 42, 56, 70, 84, 98, 112, 126, 140, 154, 168, 182, 196, 210, 224, 238, 252 .... .

Common multples of 12, 14 = 84, 168, 252 .... .

LCM of 12, 14 = 84

c. Multiples of 15 = 15, 30, 45, 60, 75, 90, 105, 120, 135, 150, 165, 180 .... .

Multiples of 20 = 20, 40, 60, 80, 100, 120, 140, 160, 180 .... .

Common multiples of 15, 20 are 60, 120, 180

LCM of 15 and 20 = 60

d. Multiples of 9 = 9, 18, 27...., 144, 153 ...., 288, 297 ...., 432 .... .

Multiples of 16 = 16, 32, 48 ...., 144, 160 ...., 288, 204, 432 .... .

Common Multiples of 9, 16 = 144, 288, 432

LCM of 9, 16 = 144

e. Multiples of 2 = 2, 4, 6 ...., 30, 32 ...., 60, 62, 90 .... .

Multiples of 3 = 3, 6, 9 ...., 30, 33 ...., 60, 63, 90 .... .

Multiples of 5 = 5, 10, 15 ...., 30, 35 ...., 60, 65, 90 .... .

Common multiples of 2, 3, 5 = 30, 60, 90 .... .

LCM of 2, 3, 5 = 30

f. Multiples of 8 = 8, 16, 32 ...., 48, 56 ...., 96, 104, 144 .... .

Multiples of 12 = 12, 24, 36, 48, 60, 96, 108, 144 .... .

Multiples of 16 = 16, 32, 48, 64, 96, 12, 144 .... .

Common multiples of 8, 12, 16 = 48, 96, 144 .... .

LCM of 8, 12, 16 = 48

2. a.

2	12
2	6
3	3
	1

2	46
23	23
	1

Prime factors of 12 = $2 \times 2 \times 3$

Prime factors of 46 = 2×23

LCM = $2 \times 2 \times 3 \times 23$

= 276

b.

2	36
2	18
3	9
3	3
	1

2	64
2	32
2	16
2	8
2	4
	2

Prime factors of 36 = $2 \times 2 \times 3 \times 3$

Prime factors 64 = $2 \times 2 \times 2 \times 2 \times 2 \times 2$

LCM = $2 \times 2 \times 3 \times 3 \times 2 \times 2 \times 2 \times 2 = 576$

= 576

c.

2	8
2	4
2	2
	1

2	16
2	8
2	4
2	2
	1

2	24
2	12
3	6
3	3
	1

Prime factors of 8 = $2 \times 2 \times 2$

Prime factors of 16 = $2 \times 2 \times 2 \times 2$

Prime factors of 24 = $2 \times 2 \times 2 \times 3$

LCM of 8, 16, 24

= $2 \times 2 \times 2 \times 2 \times 3$

= 48

d.

3	9
3	3
	1

3	27
3	9
3	3
	1

2	42
3	21
7	7
	1

Prime factors of 9 = 3×3

Prime factors of 27 = $3 \times 3 \times 3$

Prime factors of 42 = $2 \times 3 \times 7$

LCM of 9, 27, 42

= $3 \times 3 \times 3 \times 2 \times 7$

= 378

e.

2	12
2	6
3	3
	1

2	18
3	9
3	3
	1

2	28
2	14
7	7
	1

Prime factors of

12 = $2 \times 2 \times 3$

18 = $2 \times 3 \times 3$

28 = $2 \times 2 \times 7$

LCM of 12, 18, 28

= $2 \times 2 \times 3 \times 3 \times 7$

= 252

f.

2	10
5	5
	1

5	25
5	5
	1

5	35
7	7
	1

2	50
5	25
5	5
	1

Prime factors of

10 = 2×5

25 = 5×5

35 = 5×7

50 = $2 \times 5 \times 5$

LCM of 10, 25, 35, 50 = $5 \times 5 \times 2 \times 7$

= 25×14 = 350

3. a.

2	36, 42
2	18, 21
3	9, 21
3	3, 7
7	1, 7

LCM of 36, 42

$2 \times 2 \times 3 \times 3 \times 7 = 252$

b.

2	84, 96
2	42, 48
2	21, 24
2	21, 12
2	21, 6
3	21, 3
7	7, 1
	1, 1

LCM of 84, 96

$2 \times 2 \times 2 \times 2 \times 2 \times 3 \times 7 = 672$

c.

2	8, 12, 18
2	4, 6, 9
2	2, 3, 9
3	1, 3, 9
3	1, 1, 3
	1, 1, 1

LCM of 8, 12, 18

$= 2 \times 2 \times 2 \times 3 \times 3$

$= 72$

d.

2	180, 126, 450
2	90, 63, 225
3	45, 63, 225
3	15, 21, 75
5	5, 7, 25
5	1, 7, 5
1	1, 7, 1
	1, 1, 1

LCM of 180, 126, 450

$= 2 \times 2 \times 3 \times 3 \times 5 \times 5 \times 7 = 36 \times 25 \times 7$

$= 6300$

e.

2	30, 40, 45
2	15, 20, 45
2	15, 10, 45
3	15, 5, 45
3	5, 5, 15
5	5, 5, 5
	1, 1, 1

LCM of 30, 40, 45

$= 2 \times 2 \times 2 \times 3 \times 3 \times 5 = 8 \times 9 \times 5$

$= 360$

f.

2	48, 52, 96, 104
2	24, 26, 48, 52
2	12, 13, 24, 26
2	6, 13, 24, 26
2	6, 13, 12, 13
2	3, 13, 6, 13
3	3, 13, 3, 13
13	1, 13, 1, 13
	1, 1, 1, 1

LCM of 48, 52, 16, 104

$= 2 \times 2 \times 2 \times 2 \times 2 \times 3 \times 13 = 32 \times 39$

$= 1248$

4. Multiples of 12 = 12, 24, 36, 48, 60, 72 ..... .

Multiples of 15 = 15, 30, 45, 60, 75 ..... .

Multiples of 20 = 20, 40, 60, 80 ..... .

LCM of 12, 15, 20 = 60

5. a. Multiples of 6 = 6, 12, 18, 24, 30, 36, 42, 48, 54, 60 ..... .

b. Multiples of 9 = 9, 18, 27, 36, 45, 54, 63, 72, 81 ..... .

c. Common Multiples = 18, 36, 54, 72

LCM of 6 and 9 = 18

Exercise - 9.4

1. a. $1 \times 15 = 15$
$3 \times 5 = 15$
$5 \times 3 = 15$

Factors of 15
1, 3, 5, 15

b. $1 \times 20 = 20$
$2 \times 10 = 20$
$4 \times 5 = 20$
$5 \times 4 = 20$
$10 \times 2 = 20$

Factors of 20
1, 2, 4, 5, 10, 20

c. $1 \times 24 = 24$
$2 \times 12 = 24$
$3 \times 8 = 24$
$4 \times 6 = 24$
$6 \times 4 = 24$
$8 \times 3 = 24$
$12 \times 2 = 24$

Factors of 24
1, 2, 3, 4, 6, 8, 12, 24

d. $1 \times 36 = 36$
$2 \times 18 = 36$
$3 \times 12 = 36$
$4 \times 9 = 36$
$9 \times 4 = 36$
$12 \times 3 = 36$
$18 \times 2 = 36$
$36 \times 1 = 36$

Factors of 36
1, 2, 3, 4, 9, 12, 18, 36

e. $1 \times 28 = 28$
$2 \times 14 = 28$
$4 \times 7 = 28$
$7 \times 4 = 28$
$14 \times 2 = 28$
$28 \times 1 = 28$

Factors of 28
1, 2, 4, 7, 14, 28

f. $1 \times 32 = 32$
$2 \times 16 = 32$
$4 \times 8 = 32$
$8 \times 4 = 32$
$16 \times 2 = 32$
$32 \times 1 = 32$

Factors of 32
1, 2, 4, 8, 16, 32

g. $1 \times 45 = 45$
$3 \times 15 = 45$
$5 \times 9 = 45$
$9 \times 5 = 45$
$15 \times 3 = 45$
$45 \times 1 = 45$

Factors of 45
1, 3, 5, 9, 15, 45

h. $1 \times 46 = 46$
$2 \times 23 = 46$
$23 \times 2 = 46$
$46 \times 1 = 46$

Factors of 46
1, 2, 23, 46

2. a. $12 \div 1 = 12$
$12 \div 2 = 6$
$12 \div 3 = 4$
$12 \div 4 = 3$
$12 \div 6 = 2$
$12 \div 12 = 1$

Factors of 12
1, 2, 3, 4, 6, 12

b. $18 \div 1 = 18$
$18 \div 2 = 9$
$18 \div 3 = 6$
$18 \div 6 = 3$
$18 \div 9 = 2$
$18 \div 18 = 1$

Factors of 18
1, 2, 3, 6, 9, 18

c. $36 \div 1 = 36$
$36 \div 2 = 18$
$36 \div 3 = 12$
$36 \div 4 = 9$
$36 \div 6 = 6$
$36 \div 9 = 4$
$36 \div 18 = 2$
$36 \div 36 = 1$

Factors of 36
1, 2, 3, 4, 6, 9, 12, 18, 36

d. $86 \div 1 = 86$
$86 \div 2 = 43$
$86 \div 43 = 2$

e. $54 \div 1 = 54$
$54 \div 2 = 27$
$54 \div 3 = 18$

f. $63 \div 1 = 63$
$63 \div 3 = 21$
$63 \div 7 = 9$

86 ÷ 86 = 1

Factors of 86
1, 2, 43, 86

54 ÷ 6 = 9
54 ÷ 9 = 6
54 ÷ 27 = 2
54 ÷ 18 = 3
54 ÷ 54 = 1

Factors of 54
1, 2, 6, 9, 18, 27, 54

63 ÷ 9 = 7
63 ÷ 21 = 3
63 ÷ 63 = 1

Factors of 63
1, 3, 7, 9, 21, 63

g. 81 ÷ 1 = 81
81 ÷ 3 = 27
81 ÷ 9 = 9
81 ÷ 27 = 3
81 ÷ 81 = 1

Factors of 81
1, 3, 9, 27, 81

h. 104 ÷ 1 = 104
104 ÷ 2 = 52
104 ÷ 4 = 26
104 ÷ 8 = 13
104 ÷ 13 = 8
104 ÷ 26 = 4
104 ÷ 52 = 2
104 ÷ 104 = 1

Factors of 104
1, 2, 4, 8, 13, 26, 52, 104

3. a. Factors of
8 = 1, 2, 4, 8
12 = 1, 2, 3, 4, 6, 12
∴ HCF = 4

b. Factors of
10 = 1, 2, 5, 10
20 = 1, 2, 4, 5, 10, 20
∴ HCF = 10

c. Factors of
15 = 1, 3, 5, 15
20 = 1, 2, 4, 5, 10, 20
∴ HCF = 5

d. Factors of
40 = 1, 2, 4, 5, 8, 10, 20, 40
48 = 1, 2, 3, 4, 6, 8, 12, 16, 24, 48
∴ HCF = 8

e. Factors of
16 = 1, 2, 4, 8, 16
12 = 1, 2, 3, 4, 6, 12
∴ HCF = 4

f. Factors of
9 = 1, 3, 9
12 = 1, 3, 2, 4, 6, 12
∴ HCF = 3

g. Factors of

16 = 1, 2, 4, 8, 16

24 = 1, 2, 3, 4, 6, 8, 12, 24

32 = 1, 2, 4, 8, 16, 32

∴ HCF = 8

h. Factors of

22 = 1, 2, 11, 22

14 = 1, 2, 7, 14

18 = 1, 2, 3, 6, 9, 18

∴ HCF = 2

4. a. ∴ 48 ÷ 4 = 12 True

b. 25 is not divisible by 10. False

Exercise - 9.5

1. a. Factors of 5 = 1, 5

∵ Only factors are 1 and itself

∴ 5 is a Prime number

b. Factors of 15 = 1, 3, 5, 15

∵ 15 have factors more than 1 and itself.

∴ 15 is not a prime number

c. Factors of 27 = 1, 3, 9, 27

∵ 27 have factors more than 1 and itself.

∴ 27 is not a prime number.

d. Factors of 31 = 1, 31

∵ 31 have factors 1 and itself.

∴ 31 is a prime number

e. Factors of 60 = 1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30, 60

∵ Factors of 60 are more than 1 and itself.

∴ 60 is not a prime number.

f. Factors of 67 = 1, 67

∵ 67 have factors as 1 and itself.

∴ 67 is a prime number.

g. Factors of 95 = 1, 5, 19, 95

∵ 95 have factors more than 1 and itself.

∴ 95 is not a prime number.

h. Factors of 99 = 1, 3, 9, 11, 99

∵ 99 have factors more than 1 and itself.

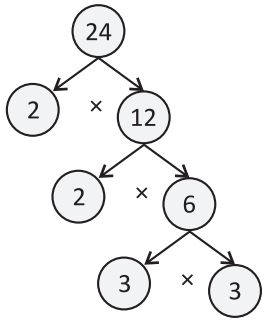
∴ 99 is not a prime number.

2. Prime numbers between 60 and 100 are 61, 67, 71, 73, 79, 89, 97

3. a. 2 b. 2 c. 3

Exercise - 9.6

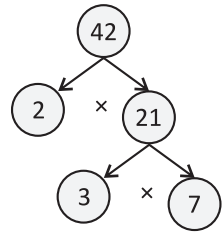
1. a.



Prime factors of 24

$2 \times 2 \times 2 \times 3$

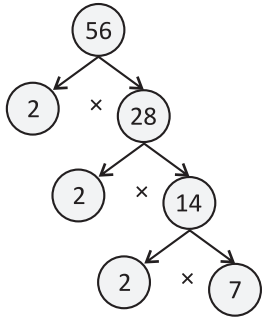
b.



Prime factors of 42

$2 \times 3 \times 7$

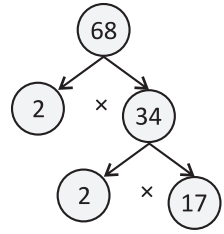
c.



Prime factors of 56

$2 \times 2 \times 2 \times 7$

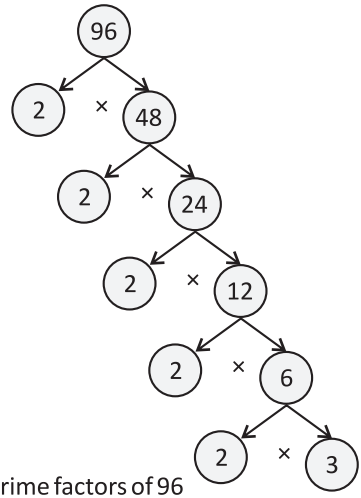
d.



Prime factors of 68

$2 \times 2 \times 17$

e.



Prime factors of 96

$2 \times 2 \times 2 \times 2 \times 2 \times 3$

2. a.

2	30
2	15
5	5
	1

Prime factors of
$30 = 2 \times 3 \times 5$

b.

3	63
3	21
7	7
	1

Prime factors of
$63 = 3 \times 3 \times 7$

c.

2	52
2	26
13	13
	1

Prime factors of
$52 = 2 \times 2 \times 13$

d.

2	66
3	33
11	11
	1

Prime factors of
$66 = 2 \times 3 \times 11$

e.

2	96
2	48
2	24
2	12
2	6
3	3
	1

Prime factors of
$96 = 2 \times 2 \times 2 \times 2 \times 2 \times 3$

f.

2	100
2	50
5	25
5	5
	1

Prime factors of
$100 = 2 \times 2 \times 5 \times 5$

g.

2	84
2	42
3	21
7	7
	1

Prime factors of
$84 = 2 \times 2 \times 3 \times 7$

h.

2	98
7	49
7	7
	1

Prime factors of
$98 = 2 \times 7 \times 7$

i.

2	126
3	63
3	21
7	7
	1

Prime factors of
$126 = 2 \times 3 \times 3 \times 7$

j.

2	144
2	72
2	36
2	18
3	9
3	3
	1

Prime factors of
$84 = 2 \times 2 \times 2 \times 2 \times 3 \times 3$

3. a. Factors of
24 = 1, 2, 3, 4, 6, 8, 12, 24
28 = 1, 2, 4, 7, 14, 28
Common factors 1, 2, 4
HCF = 4

b. Factors of
25 = 1, 5, 25
35 = 1, 5, 7,35
Common factors 1, 5
HCF = 5

c. Factors of
18 = 1, 2, 3, 6, 9, 18
27 = 1, 3, 9, 27

Common factors 1, 3, 9
HCF = 9

d. Factors of
16 = 1, 2, 4, 8, 16
24 = 1, 2, 3, 4, 6, 12, 24, 8
40 = 1, 2, 4, 8, 10, 20, 40
Common factors 1, 2, 4, 8
HCF = 8

e. Factors of

18 = 1, 2, 3, 6, 9, 18

27 = 1, 3, 9, 27

63 = 1, 3, 7, 9, 21, 63

Common factors 1, 3, 9

HCF = 9

4. a.

2	14
7	7
	1

5	35
7	7
	1

Prime factors of

14 = 2 × 7

35 = 5 × 7

HCF = 7

b.

2	30
2	15
5	5
	1

3	45
5	15
3	3
	1

Prime factors of

30 = 2 × 3 × 5

45 = 3 × 3 × 5

HCF = 3 × 5 = 15

c.

2	40
2	20
2	10
5	5
	1

2	48
2	24
2	12
2	6
3	3
	1

Prime factors of

40 = 2 × 2 × 2 × 5

48 = 2 × 2 × 2 × 2 × 3

HCF = 2 × 2 × 2

8

d.

2	36
2	18
3	9
3	1

2	60
2	30
2	15
5	5
	1

Prime factors of

36 = 2 × 2 × 3 × 3

60 = 2 × 2 × 3 × 5

HCF = 2 × 2 × 3

12

e.

2	56
2	28
2	14
7	7
	1

2	84
2	42
3	21
7	7
	1

Prime factors of

56 = 2 × 2 × 2 × 7

84 = 2 × 2 × 3 × 7

HCF = 2 × 2 × 7

28

f.

2	12
2	6
3	3
	1

2	16
2	8
2	4
2	2
	1

2	20
2	10
5	5
	1

Prime factors of

12 = 2 × 2 × 3

16 = 2 × 2 × 2 × 2

20 = 2 × 2 × 5

HCF = 2 × 2

4

g.

5	25
5	5
	1

5	35
7	7
	1

3	45
3	15
5	5
	1

Prime factors of

25 = ⑤× 5

35 = ⑤× 7

45 = 3 × 3 ×⑤

HCF = 5

h.

3	45
3	15
5	5
	1

2	60
2	30
3	15
5	5
	1

3	105
5	35
7	7
	1

Prime factors of

45 = ③×③×⑤

60 = 2 × 2 ×③×⑤

105 = ③×⑤× 7

HCF = 3 × 5

= 15

i.

2	54
3	27
3	9
3	3
	1

2	72
2	36
2	18
3	9
3	3
	1

2	90
3	45
3	15
5	5
	1

Prime factors of

54 = ②×③×③× 3

72 = ②× 2 × 2 ×③×③

90 = ②×③×③× 5

HCF = 2 × 3 × 3

= 18

j.

3	63
3	21
7	7
	1

3	105
5	35
7	7
	1

3	147
7	49
7	7
	1

Prime factors of

63 = ③× 3 ×⑦

105 = ③× 5 ×⑦

147 = ③×⑦× 7

HCF = 3 × 7

= 21

Exercise - 9.7

1. a. 4<u>4</u> even ∵ even number at ones place

b. 9<u>3</u> not even number ∵ odd number at ones place

c. 1<u>8</u> even number ∵ even number at ones place

d. 10<u>6</u> even number ∵ even number at ones place

e. 10<u>6</u> not even number ∵ odd number at ones place

f. 39<u>7</u> not even number ∵ odd number at ones place

g. 117<u>3</u> not even number ∵ odd number at ones place

h. 267<u>2</u> even number ∵ even number at ones place

i. 369<u>8</u> even number ∵ even number at ones place

j. 739<u>4</u> even number ∵ even number at ones place

k. 761<u>0</u> even number ∵ even number at ones place

l. 200<u>0</u> even number ∵ even number at ones place

m. 68761<u>2</u> even number ∵ even number at ones place

n. 21753<u>6</u> even number ∵ even number at ones place

o. 5002<u>1</u> not even number ∵ odd number at ones place

p. 60081<u>0</u> even number ∵ even number at ones place

2. a. 216

$2 + 1 + 66 = 9$ divisible by 3

$\therefore$ 216 is divisible by 3

b. 827

$8 + 2 + 7 = 17$ that divisible by 3

$\therefore$ 827 is not divisible by 3

c. 123

$1 + 2 + 3 = 6$ divisible by 3

$\therefore$ 123 is divisible by 3

d. 96432

$9 + 6 + 4 + 3 + 2 = 24$ divisible by 3

$\therefore$ 96432 is divisible by 3

e. 1225

$1 + 2 + 2 + 5 = 10$ not divisible y 3

$\therefore$ 1225 is not divisible by 3

f. 1097

$1 + 0 + 9 + 7 = 17$ not divisible by 3

$\therefore$ 1097 not divisible by 3

g. 785

$7 + 8 + 5 = 20$ not divisible by 3

$\therefore$ 785 not divisible by 3

h. 66435

$6 + 6 + 4 + 3 + 5 = 24$ divisible by 3

$\therefore$ 66435 is divisible by 3

3. a. 6512

last two digit divisible by 4

$\therefore$ 6512 is divisible by 4.

b. 685

last two digits not divisible by 4

$\therefore$ 685 is not divisible by 4.

c. 5634 last two digits not divisible by 4

$\therefore$ 5634 not divisible by 4.

d. 53111 last two digits not divisible by 4.

$\therefore$ 53111 not divisible by 4.

e. 750016 last two digits divisible by 4

$\therefore$ 750016 is divisible by 4

f. 3915 last two digits not divisible by 4

$\therefore$ 3915 not divisible by 4

g. 6400 last two digits divisible by 4

$\therefore$ 6400 divisible by 4

h. 750016 last two digits divisible by 4
$\therefore$ 750016 divisible by 4

i. 4573 last two digits not divisible by 4
$\therefore$ 4573 not divisible by 4

j. 2342 last two digits not divisible by 4
$\therefore$ 2342 is not divisible by 4

k. 4928 last two digits divisible by 4
$\therefore$ 4928 divisible by 4

l. 276052 last two digits divisible by 4
$\therefore$ 276052 divisible by 4

4. a. 165 ones digit is 5
$\therefore$ 165 is divisible by 5

b. 139 ones digit is not 0 or 5
$\therefore$ 139 is not divisible by 5

c. 3965 ones digit is 5
$\therefore$ 3965 is divisible by 5

d. 2110 ones digit is 0
$\therefore$ 2110 is divisible by 5

e. 6400 ones digit is 0
$\therefore$ 6400 is divisible by 5

f. 1965 ones digit is 5
$\therefore$ 1965 is divisible by 5

g. 3977 is ones digit is not 0 or 5
$\therefore$ 3977 is not divisible by 5

h. 3729 ones digit is not 0 or 5
$\therefore$ 3729 is not divisible by 5

5. a. 3100
$3 + 1 + 0 + 1 = 5$ not divisible by 3
$\therefore$ 3100 is not divisible by 3
$\therefore$ 3100 is not divisible by 6 also.

b. 67943
$6 + 7 + 9 + 4 + 3 = 29$ not divisible by 3
$\therefore$ 67943 not divisible by 3
$\therefore$ 67943 is not divisible by 6 also.

c. 1112
$1 + 1 + 1 + 2 = 5$ not divisible by 3
$\therefore$ 1112 not divisible by 3
$\therefore$ 1112 not divisible by 6 also.

d. 6347
$6 + 3 + 4 + 7 = 20$ not divisible by 3
$\therefore$ 6347 not divisible by 3
$\therefore$ 6347 is not divisible by 6 also.

e. 168

$1 + 6 + 8 = 15$ divisible by 3

168 divisible by 3

168 ones digit is even

$\therefore$ 168 divisible by 2 also

$\therefore$ 168 is divisible by 6 because it is divisible by 2 and 3 both

f. 6090

$6 + 1 + 9 + 0 = 16$ not divisible by 3

$\therefore$ 6190 is not divisible by 3

$\therefore$ 6190 is not divisible by 6 also

g. 532

$5 + 3 + 2 = 10$ not divisible by 3

$\therefore$ 532 is not divisible by 3

$\therefore$ 532 not divisible by 6 also

h. 4599

$4 + 5 + 5 + 9 = 23$ not divisible by 3

$\therefore$ 4559 not divisible by 3

$\therefore$ 4559 not divisible by 6 also

6. 6042 is divisible by 2 $\because$ even number at ones place

5246 is also divisible by 2 $\because$ even number at ones place

$$\begin{array}{r} 6042 \\ +\,5246 \\ \hline 11288 \\ \hline \end{array}$$

sum also divisible by 2 $\because$ even numbers at ones place

7. January = 31 days not divisible 2 and 5

February = 28 days divisible by 2 only

March = 31 days not divisible by 2 and 5

April = 30 days divisible by 2 or 5

June = 3 days not divisible by 2 and 5 both

July = 31 days not divisible by 2 or 5

August = 31 days not divisible by 2 or 5

September = 30 days divisible by 2 and 5 both

October = 31 days not divisible by 2 or 5

November = 30 days divisible by 2 and 5 both

December = 31 days not divisible by 2 or 5

8. a. 423

$\therefore 4 + 2 + 3 = 9$ divisible by 3

$\therefore$ 423 divisible by 3

b. 561

$\therefore 5 + 6 + 1 = 12$ divisible by 3

$\therefore$ 561 divisible by 3

c. 291

$\therefore 2 + 9 + 1 = 12$ divisible by 3

$\therefore$ 291 is divisible by 3

d. 105

$\therefore 1 + 0 + 5 = 6$ divisible by 3

$\therefore$ 105 divisible by 3

9. a. 3 0 0
$3 + 0 + 0 = 3$ divisible by 3
300 is divisible by 3
300 is divisible by 2 also
$\therefore$ 300 is divisible by 6

b. 2 2 2
$2 + 2 + 2 = 6$ divisible by 3
222 is divisible by 3
222 is divisible by 2 also
$\therefore$ $2 + 2$ is divisible by 6

c. 1 2 6
$\because$ $1 + 2 + 6 = 9$ divisible by 3
$\therefore$ 126 is divisible by 3
$\therefore$ 126 is divisible by 2 also
$\therefore$ 126 is divisible by 6

d. 7 2 0
$7 + 2 + 0 = 9$ divisible by 3
720 is divisible by 3
720 is divisible by 2 also
$\therefore$ 720 is divisible by 6

10. a. 111 is divisible by 3
$\because$ $1 + 1 + 1 = 3$ is divisible by 3 but not divisible by 9
$\therefore$ 111 is divisible by 3 but not by 9

b. 123 is divisible by 3
$\because$ $1 + 2 + 3 = 6$ divisible by 3 but not divisible by 9
$\therefore$ 123 is divisible by 3 but not by 9

c. 246 is divisible by 3 because
$\because$ $2 + 4 + 6 = 12$ divisible by 3 but not divisible by 9
$\therefore$ 246 is divisible by 3 but not divisible by 9

d. 663 is divisible by 3 because
$\because$ $6 + 6 + 3 = 15$ divisible by 3 but not divisible by 9
$\therefore$ 663 is divisible by 3 but not divisible by 9

e. 993 is divisible by 3 because
$\because$ $9 + 9 + 3 = 21$ divisible by 3
$\therefore$ 993 is divisible by 3 but not divisible by 9

11. a. 201 is divisible by 3 because
$2 + 0 + 1 = 3$ divisible by 3
$\therefore$ 201 is not divisible by 2
$\therefore$ 201 is divisible by 3 but not by 6

b. 333 is divisible by 3
$\because$ $3 + 3 + 3 = 9$ divisible by 3
but 333 is not divisible by 2
$\therefore$ 333 is not divisible by 6

c. 405 is divisible by 3 because
$4 + 0 + 5 = 9$ divisible by 3
405 is not divisible by 2
$\therefore$ 405 is not divisible by 6

d. 207 is divisible by 3 because
$2 + 0 + 7 = 9$ divisible by 3
but 207 is not divisible by 2
$\therefore$ 207 is not divisible by 6

e. 219 is divisible by 3 because
$2 + 1 + 9 = 12$ divisible by 3
but 219 is not divisible by 2
$\therefore$ 219 is not divisible by 6

12. a. False b. False c. True
d. True e. False

Exercise - 9.8

1. HCF of 24 and 56

```
24)56(2
  -48
   8)24(3
    -24
      0
```

$\therefore$ 8 is HCF of 24 and 56

$\therefore$ 8 is greatest number which divides 24 and 56 exactly.

2. Incomplete

3. HCF of $(82-2), (131-3), (176-4)$

(80, 128, 172)

2	80
2	40
2	20
2	10
5	5
	1

2	128
2	64
2	32
2	16
2	8
2	4
2	2
	1

2	172
2	86
43	43
	43

$80 = 2 \times 2 \times 2 \times 2 \times 5$

$128 = 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2$

$172 = 2 \times 2 \times 43$

HCF $= 2 \times 2 = 4$

$\therefore$ 4 is largest number, which divides 82, 131, 176 leaving 2, 3 and 4 respectively.

4. HCF of $(140-5, 190-5, 280-5)$

HCF of (135, 185, 275)

5	135
3	27
3	9
3	3
	1

5	185
37	37
	1

5	275
5	55
11	11
	1

$135 = 5 \times 3 \times 3 \times 3$

$185 = 5 \times 37$

$275 = 5 \times 5 \times 11$

HCF is 5

$\therefore$ 5 is largest number which divides 140, 190 and 280 leaving 5 as remainder in each case.

5. length of road HCF (54, 56)

2	54
3	27
3	9
3	3
	1

2	56
2	28
2	14
7	7
	1

54 = 2 × 3 × 3 × 3

56 = 2 × 2 × 2 × 7

HCF = 2

∴ 2 m rod can measure exactly two roles of cloth of length 54 m and 56 m

6.

2	36, 42, 56
2	18, 21, 28
2	9, 21, 14
3	9, 21, 7
3	3, 7, 7
7	1, 7, 7
	1, 1, 1

∴ 2 × 2 × 2 × 3 × 3 × 7

24 × 21 = 504

∴ 504 is smallest number when divided by 36, 42 and 56 leaves no remainder.

7.

2	18, 20, 26
2	9, 10, 13
3	9, 5, 13
3	3, 5, 13
5	1, 5, 13
13	1, 1, 13
	1, 1, 1

∴ 2 × 2 × 3 × 3 × 5 × 13

= 36 × 65 = 2340

∴ 2340 is smallest number divisible by 18, 20, 26.

8.

2	21, 24, 42
2	21, 12, 21
2	21, 6, 21
3	21, 3, 21
7	7, 1, 7
	1, 1, 1

LCM = 2 × 2 × 2 × 3 × 21 = 504

504 + 6 = 510 is smallest number when divided by 21, 24 and 42 leaves 6 as remainder in each case.

9. LCM of 15, 20, 25

2	15, 20, 25
2	15, 10, 25
3	15, 5, 25
5	5, 5, 25
5	1, 1, 5
	1, 1, 1

LCM = 2 × 2 × 3 × 5 × 5 = 300

300 – 5 = 295 is smallest number when increased by 5 divisible by 15, 20 and 25.

10. LCM of 8, 18, 38

2	8, 18, 38
2	4, 9, 19
2	2, 9, 19
3	1, 9, 19
3	1, 9, 19
3	1, 3, 19
19	1, 1, 19
	1, 1, 1

$\therefore$ $2 \times 2 \times 2 \times 3 \times 3 \times 19 = 1368$

$\therefore$ largest of 4 digit number = 9999

$$\begin{array}{r|l} 1368 & 9999 \,(\, 7 \\ & -9576 \\ \hline & \quad 423 \end{array}$$

9999 – 423 = 9576 is largest four digit number divisible by 8, 18, 38

11. LCM of 10, 20, 25

2	10, 20, 25
2	5, 10, 25
5	5, 5, 25
5	1, 1, 5
	1, 1, 1

they ring again after $2 \times 2 \times 5 \times 5 = 100$ minutes

they ring again at 9:00 am + 100 minutes

9:00 am + 1 hr 40 minutes 10:40 am

12.

2	42, 46, 50
3	21, 23, 25
5	7, 23, 25
5	7, 23, 5
7	7, 23, 1
23	1, 23, 1
	1, 1, 1

LCM = $2 \times 3 \times 5 \times 5 \times 7 \times 23 = 24150$

(24150 + 8) = 24158 is least number when decreased by 8 divisible by 42, 46 and 50.

MCQ

1. b 2. a 3. a 4. a 5. b

Test Exercise

1. Ist four multiples of 7

$7 \times 1 = 7$ $7 \times 2 = 14$

$7 \times 3 = 21$ $7 \times 4 = 28$

2. Next three multiple

6, 12, 18, <u>24</u>, <u>30</u>, <u>36</u>

3. Multiple of 6 = 6, 12, 18, 24 ..... .

Multiple of 9 = 9, 18, 27, 36, 45 ..... .

Ist common multiple of 6 and 9 = 18

4. $3\overline{)54}\,(18$
$\quad -3$
$\quad 24$
$\quad -24$
$\quad 0$

54 is divisible by 3

5. $579\underline{0}$

$\because$ even number at ones place
$\therefore$ 5790 is divisible by 2

6. $5\overline{)35}\,(7$
$\quad -35$
$\quad 0$

35 is divisible by 5
5 is factor of 35

7. $3\overline{)108}\,(36$
$\quad -9$
$\quad 18$
$\quad -18$
$\quad 0$

108 is divisible by 3
3 is factor of 108

8. $6\overline{)42}\,(7$
$\quad -42$
$\quad 0$

$\because$ Remainder is zero
$\therefore$ 42 is divisible by 6

9. 2 is smallest even Prime number
10. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17
11. No, all prime number are not odd. 2 is even prime number.
12. Yes 547 is divisible by 1 because every number divisible by 1.
13.

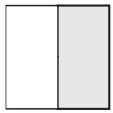
2	12
2	6
3	3
	1

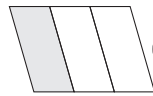
$\therefore$ Prime factors of 12
$12 = 2 \times 2 \times 3$

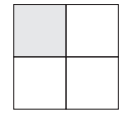
14. Factors of 10 = 1, 2, 5, 10
Factors of 15 = 1, 3, 5, 15
Common factors = 1, 5
HCF of 10, 15 = 5
15. Multiples of 6 = 6, 12, 18, 24, 30 .... .
Multiples of 8 = 8, 16, 24, 34, 40 .... .
LCM of 6 and 8 = 24
16. Multiples of 2 = 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30.... .
Multiples of 3 = 3, 6, 9, 12, 15, 18, 21, 24, 27, 30.... .
Multiples of 5 = 5, 10, 15, 20, 25, 30.... .
First common multiple of 2, 3, 5 is 30.

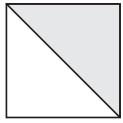
10 Fractions

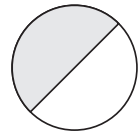
Exercise - 10.1

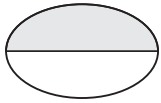
1. (a)  $\frac{1}{2}$

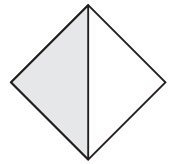
(b)  $\frac{1}{3}$

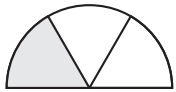
(c)  $\frac{1}{4}$

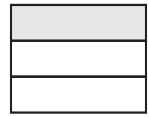
2. (a)  $\frac{1}{2}$

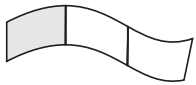
(b)  $\frac{1}{2}$

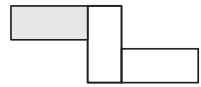
(c)  $\frac{1}{2}$

(d)  $\frac{1}{2}$

3. (a)  $\frac{1}{3}$

(b)  $\frac{1}{3}$

(c)  $\frac{1}{3}$

(d)  $\frac{1}{3}$

4. (a) $\frac{3}{8}$ (b) $\frac{3}{5}$ (c) $\frac{3}{9}$ or $\frac{1}{3}$ (d) $\frac{3}{4}$

(e) $\frac{6}{7}$ (f) $\frac{4}{5}$

5. (a) $\frac{3}{4}$ (b) $\frac{5}{11}$ (c) $\frac{4}{7}$ (d) $\frac{5}{10}$

Exercise - 10.2

1. (a) $\frac{2}{10} = \frac{\boxed{4}}{20} = \frac{\boxed{6}}{30} = \frac{\boxed{8}}{40}$

(b) $\frac{1}{4} = \frac{2}{\boxed{8}} = \frac{\boxed{12}}{48} = \frac{16}{\boxed{64}}$

(c) $\frac{3}{10} = \frac{\boxed{6}}{20} = \frac{12}{\boxed{40}} = \frac{\boxed{15}}{50}$

(d) $\frac{6}{9} = \frac{\boxed{12}}{18} = \frac{18}{\boxed{27}} = \frac{\boxed{48}}{72}$

(e) $\frac{6}{17} = \frac{\boxed{12}}{34} = \frac{36}{\boxed{102}} = \frac{54}{\boxed{153}}$ (f) $\frac{11}{23} = \frac{44}{\boxed{92}} = \frac{\boxed{55}}{115} = \frac{88}{\boxed{184}}$

2. (a) $\frac{3}{4}$ $\frac{6}{12}$

3×12 6×4

$36 \neq 24$

Not equivalent

(b) $\frac{2}{3}$ $\frac{8}{12}$

2×12 8×3

$24 = 24$

Yes equivalent

(c) $\frac{8}{10}$ $\frac{40}{50}$

8×50 40×10

$400 = 400$

Yes equivalent

(d) $\frac{2}{3}$ $\frac{42}{54}$

2×54 42×3

$108 \neq 126$

Not equivalent

(e) $\frac{3}{6}$ $\frac{6}{12}$

3×12 6×6

$36 = 36$

Yes equivalent

(f) $\frac{5}{10}$ $\frac{7}{50}$

5×50 7×10

$250 \neq 70$

Not equivalent

Exercise - 10.3

1. (a) like fraction (b) unlike fraction (c) unlike fraction
   (d) like fraction (e) unlike fraction (f) like fraction

2. (a) $\frac{1}{8}, \frac{2}{8}, \frac{3}{\underline{8}}, \frac{4}{\underline{8}}, \frac{5}{\underline{8}}, \frac{6}{\underline{8}}, \frac{7}{\underline{8}}$ (b) $\frac{2}{9}, \frac{3}{9}, \frac{4}{\underline{9}}, \frac{5}{\underline{9}}, \frac{7}{\underline{9}}, \frac{8}{\underline{9}}, \frac{10}{\underline{9}}$ (c) $\frac{1}{10}, \frac{2}{10}, \frac{3}{\underline{10}}, \frac{4}{\underline{10}}, \frac{5}{\underline{10}}, \frac{6}{\underline{10}}, \frac{7}{\underline{10}}$

3. (a) $\frac{3}{7}$ Proper fraction (b) $\frac{8}{6}$ in proper fraction
   (c) $\frac{18}{27}$ Proper fraction (d) $\frac{18}{20}$ Proper fraction
   (e) $\frac{17}{19}$ Proper fraction (f) $\frac{21}{20}$ in proper fraction
   (g) $\frac{24}{20}$ in proper fraction (h) $\frac{16}{17}$ Proper fraction
   (i) $\frac{6}{7}$ Proper fraction (j) $\frac{11}{12}$ Proper fraction
   (k) $\frac{16}{20}$ Proper fraction (l) $\frac{21}{17}$ in proper fraction

4. (a) $\frac{5}{6}$ Proper fraction (b) $\frac{7}{9}$ Proper fraction
   (c) $\frac{99}{100}$ Proper fraction (d) $\frac{13}{11}$ in proper fraction
   (e) $\frac{16}{17}$ Proper fraction (f) $\frac{19}{18}$ in proper fraction

(g) $\frac{8}{5}$ in proper fraction (h) $\frac{12}{11}$ in proper fraction

(i) $\frac{20}{21}$ Proper fraction (j) $\frac{49}{50}$ Proper fraction

(k) $\frac{16}{34}$ Proper fraction (l) $\frac{19}{3}$ in proper fraction

5. (a) $\frac{13}{7}, \boxed{\frac{5}{6}}, \frac{11}{6}, \boxed{\frac{2}{8}}, \frac{5}{3}, \frac{7}{6}, \frac{5}{3}$ (b) $\boxed{\frac{5}{9}}, \boxed{\frac{3}{4}}, \frac{16}{9}, \boxed{\frac{1}{5}}, \frac{11}{9}, \frac{9}{8}, \boxed{\frac{2}{3}}$

6. (a) $\frac{23}{38}, \frac{42}{54}, \boxed{\frac{61}{36}}, \frac{83}{100}, \boxed{\frac{84}{75}}$ (b) $\frac{13}{20}, \boxed{\frac{27}{21}}, \frac{15}{37}, \frac{18}{82}, \boxed{\frac{21}{17}}$

7. (a) $6\frac{3}{5} = \frac{6\times5+3}{5} = \frac{30+3}{5} = \frac{33}{5}$ (b) $3\frac{2}{6} = \frac{3\times6+2}{6} = \frac{18+2}{6} = \frac{20}{6}$

(c) $8\frac{1}{7} = \frac{8\times7+1}{7} = \frac{56+1}{7} = \frac{57}{7}$ (d) $4\frac{7}{9} = \frac{4\times9+7}{9} = \frac{36+7}{9} = \frac{43}{9}$

(e) $6\frac{1}{8} = \frac{6\times8+1}{8} = \frac{48+1}{8} = \frac{49}{8}$ (f) $11\frac{1}{2} = \frac{11\times2+1}{2} = \frac{22+1}{2} = \frac{23}{2}$

8. (a) $\frac{33}{8}$

$$\begin{array}{r} 4 \\ 8\overline{)33} \\ -32 \\ \hline 1 \end{array}$$

$4\frac{1}{8}$

(b) $\frac{71}{7}$

$$\begin{array}{r} 10 \\ 7\overline{)71} \\ -70 \\ \hline 1 \end{array}$$

$10\frac{1}{7}$

(c) $\frac{33}{6}$

$$\begin{array}{r} 5 \\ 6\overline{)33} \\ -30 \\ \hline 3 \end{array}$$

$5\frac{3}{6}$ or $5\frac{1}{2}$

(d) $\frac{122}{9}$

$$\begin{array}{r} 13 \\ 9\overline{)122} \\ -9 \\ \hline 32 \\ -27 \\ \hline 5 \end{array}$$

$13\frac{5}{9}$

(e) $\frac{44}{3}$

$$\begin{array}{r} 14 \\ 3\overline{)44} \\ -3 \\ \hline 14 \\ -12 \\ \hline 2 \end{array}$$

$14\frac{2}{3}$

(f) $\frac{57}{7}$

$$\begin{array}{r} 8 \\ 7\overline{)57} \\ -56 \\ \hline 1 \end{array}$$

$8\frac{1}{7}$

(g) $\frac{17}{6}$

$$\begin{array}{r} 2 \\ 6\overline{)17} \\ -12 \\ \hline 5 \end{array}$$

$2\frac{5}{6}$

(h) $\frac{21}{6}$

$$\begin{array}{r} 3 \\ 6\overline{)21} \\ -18 \\ \hline 3 \end{array}$$

$3\frac{3}{6}$ or $3\frac{1}{2}$

(i) $\frac{19}{3}$

$$\begin{array}{r} 6 \\ 3\overline{)19} \\ -18 \\ \hline 1 \end{array}$$

$6\frac{1}{3}$

(j) $\frac{28}{5}$

$$\begin{array}{r} 5 \\ 5\overline{)28} \\ -25 \\ \hline 3 \end{array}$$

$5\frac{3}{5}$

(k) $\frac{16}{3}$

$$\begin{array}{r} 5 \\ 3\overline{)16} \\ -15 \\ \hline 1 \end{array}$$

$5\frac{1}{3}$

(l) $\frac{29}{5}$

$$\begin{array}{r} 5 \\ 5\overline{)29} \\ -25 \\ \hline 4 \end{array}$$

$5\frac{4}{5}$

(m) $\frac{26}{4}$

$$\begin{array}{r} 6 \\ 4\overline{)26} \\ -24 \\ \hline 2 \end{array}$$

(n) $\frac{19}{4}$

$$\begin{array}{r} 4 \\ 4\overline{)19} \\ -16 \\ \hline 3 \end{array}$$

(o) $\frac{34}{3}$

$$\begin{array}{r} 11 \\ 3\overline{)34} \\ -33 \\ \hline 1 \end{array}$$

$6\frac{2}{4}$ or $6\frac{1}{2}$ $\quad$ $4\frac{3}{4}$ $\quad$ $11\frac{1}{3}$

(p) $\frac{39}{5}$ $\quad$ $5\overline{)39}\,(7$, -35, 4 $\quad$ $7\frac{4}{5}$

(q) $\frac{48}{7}$ $\quad$ $7\overline{)48}\,(6$, -42, 6 $\quad$ $6\frac{6}{7}$

(r) $\frac{69}{8}$ $\quad$ $8\overline{)69}\,(8$, -64, 5 $\quad$ $8\frac{5}{8}$

9. (a) $\frac{27}{42}$ $\quad$ (b) $\frac{56}{100}$ $\quad$ (c) $\frac{55}{125}$ $\quad$ (d) $\frac{49}{77}$ $\quad$ (e) $\frac{108}{216}$ $\quad$ (f) $\frac{26}{39}$

$\frac{27\div 3}{42\div 3}$ $\quad$ $\frac{56\div 4}{100\div 4}$ $\quad$ $\frac{55\div 5}{125\div 5}$ $\quad$ $\frac{49\div 7}{77\div 7}$ $\quad$ $\frac{108\div 108}{216\div 08}$ $\quad$ $\frac{26\div 13}{39\div 13}$

$\frac{9}{14}$ $\quad$ $\frac{14}{25}$ $\quad$ $\frac{11}{25}$ $\quad$ $\frac{7}{11}$ $\quad$ $\frac{1}{2}$ $\quad$ $\frac{2}{3}$

Exercise - 10.4

1. (a) $\frac{4}{7}\ \boxed{<}\ \frac{8}{7}$ $\quad$ (b) $\frac{11}{6}\ \boxed{>}\ \frac{10}{6}$ $\quad$ (c) $\frac{4}{5}\ \boxed{=}\ \frac{8}{10}$ $\quad$ $\because$ $4\times 10=40$, $8\times 5=40$

(d) $\frac{16}{6}\ \boxed{>}\ \frac{16}{6}$ $\quad$ (e) $\frac{9}{12}\ \boxed{<}\ \frac{9}{7}$ $\quad$ (f) $\frac{2}{4}\ \boxed{<}\ \frac{4}{5}$ $\quad$ $\because$ $2\times 5=10$, $4\times 4=16$

2. (a) $\frac{1}{3}=\frac{2}{6}=\frac{3}{9}=\frac{4}{12}=\boxed{\frac{5}{15}}$

$\frac{1}{5}=\frac{2}{10}=\boxed{\frac{3}{15}}$

$\because$ $\frac{5}{15}>\frac{3}{15}$

$\therefore$ $\frac{1}{3}\ \boxed{>}\ \frac{1}{5}$

(b) $\frac{1}{5}=\frac{2}{10}=\frac{3}{15}=\frac{4}{20}=\frac{5}{25}=\boxed{\frac{6}{30}}$

$\frac{1}{6}=\frac{2}{12}=\frac{3}{18}=\frac{4}{24}=\frac{5}{30}$

$\because$ $\frac{6}{30}>\frac{5}{30}$

$\therefore$ $\frac{1}{5}\ \boxed{>}\ \frac{1}{6}$

(c) $\frac{1}{3}=\frac{2}{6}=\frac{3}{9}=\frac{4}{12}=\boxed{\frac{5}{15}}$

$\frac{4}{5}=\frac{8}{20}=\boxed{\frac{12}{15}}$

$\because$ $\frac{12}{15}>\frac{5}{15}$

$\therefore$ $\frac{4}{5}\ \boxed{>}\ \frac{1}{3}$

(d) $\frac{1}{2}=\frac{2}{4}=\frac{3}{6}=\frac{4}{8}=\boxed{\frac{5}{10}}$

$\frac{4}{5}=\boxed{\frac{8}{10}}$

$\because$ $\frac{8}{10}>\frac{5}{10}$

$\therefore$ $\frac{4}{5}>\frac{1}{2}$

(e) $\frac{9}{10} = \frac{18}{20} = \boxed{\frac{27}{30}}$

$= \frac{5}{6} = \frac{10}{12} = \frac{15}{18} = \frac{20}{24} = \boxed{\frac{25}{30}}$

$\because \quad \frac{27}{30} > \frac{25}{30}$

$\therefore \quad \frac{9}{10} > \frac{5}{6}$

3. (a) $\frac{2}{5} \qquad \frac{3}{4}$

$\frac{2 \times 4}{5 \times 4} \qquad \frac{3 \times 5}{4 \times 5}$

$\because \quad \frac{8}{20} < \frac{15}{20}$

$\therefore \quad \frac{2}{5} \boxed{<} \frac{3}{4}$

(b) $\frac{3}{9} \qquad \frac{1}{4}$

$\frac{3 \times 4}{9 \times 4} \qquad \frac{1 \times 9}{4 \times 9}$

$\because \quad \frac{12}{36} > \frac{9}{36}$

$\therefore \quad \frac{3}{9} > \frac{1}{4}$

(c) $\frac{1}{6} \qquad \frac{2}{9}$

$\frac{1 \times 3}{6 \times 3} \qquad \frac{2 \times 2}{9 \times 2}$

$\because \quad \frac{3}{18} < \frac{4}{18}$

$\therefore \quad \frac{1}{6} \boxed{<} \frac{2}{9}$

(d) $\frac{3}{5} \qquad \frac{7}{8}$

$\frac{3 \times 8}{5 \times 8} \qquad \frac{7 \times 5}{8 \times 5}$

$\because \quad \frac{24}{40} < \frac{35}{40}$

$\therefore \quad \frac{3}{5} < \frac{7}{8}$

(e) $\frac{9}{10} \qquad \frac{5}{9}$

$\frac{9 \times 9}{10 \times 9} \qquad \frac{5 \times 10}{9 \times 10}$

$\because \quad \frac{81}{90} > \frac{50}{90}$

$\therefore \quad \frac{9}{10} > \frac{5}{9}$

Exercise - 10.5

1. (a) $\frac{1}{7} < \frac{2}{7} < \frac{4}{7} < \frac{5}{7} < \frac{6}{7}$ (b) $\frac{8}{17} < \frac{8}{15} < \frac{8}{13} < \frac{8}{11} < \frac{8}{9}$

(c) $\frac{1}{3} \quad \frac{5}{7} \quad \frac{4}{5} \quad \frac{3}{8} \quad \frac{1}{2}$ Convert into like fraction

LCM of 3, 7, 5, 8, 2

2	3, 7, 5, 8, 2
2	3, 7, 5, 4, 1
2	3, 7, 5, 2, 1
3	3, 7, 5, 1, 1
5	1, 7, 5, 1, 1
7	1, 7, 1, 1, 1
	1, 1, 1, 1, 1

$\text{LCM} = 2 \times 2 \times 2 \times 3 \times 5 \times 7 = 840$

$\therefore \quad \frac{1}{3}, \frac{5}{7}, \frac{4}{5}, \frac{3}{8}, \frac{1}{2}$

$\frac{1 \times 280}{3 \times 280}, \frac{5 \times 120}{7 \times 120}, \frac{4 \times 168}{5 \times 168}, \frac{3 \times 105}{8 \times 105}, \frac{1 \times 420}{2 \times 420}$

$\frac{280}{840}, \frac{600}{840}, \frac{672}{840}, \frac{315}{840}, \frac{420}{840}$

$\because \quad \frac{280}{840} < \frac{315}{840} < \frac{420}{840} < \frac{600}{840} < \frac{672}{840}$

$\therefore \quad \frac{1}{3} < \frac{3}{8} < \frac{1}{2} < \frac{5}{7} < \frac{4}{5}$

(d) $\frac{5}{6}, \frac{9}{13}, \frac{3}{7}, \frac{7}{11}, \frac{1}{6}$

LCM

2	6, 13, 7, 11, 6
3	3, 13, 7, 11, 3
7	1, 13, 7, 11, 1
11	1, 13, 1, 11, 1
13	1, 13, 1, 1, 1
	1, 1, 1, 1, 1

$\therefore \text{LCM} = 2 \times 3 \times 7 \times 11 \times 13 = 6006$

$\therefore \quad \frac{5 \times 1001}{6 \times 1001}, \frac{9 \times 462}{13 \times 462}, \frac{3 \times 858}{7 \times 858}, \frac{7 \times 546}{11 \times 546}, \frac{1 \times 1001}{6 \times 1001}$

$$\frac{5005}{6006}, \frac{4158}{6006}, \frac{2574}{6006}, \frac{3822}{6006}, \frac{1001}{6006}$$

$$\because \quad \frac{1001}{6006} < \frac{2574}{6006} < \frac{3822}{6006} < \frac{4158}{6006} < \frac{5005}{6006}$$

$$\therefore \quad \frac{1}{6} < \frac{3}{7} < \frac{7}{11} < \frac{9}{13} < \frac{5}{6}$$

2. $\frac{5}{8}, \frac{3}{8}, \frac{1}{8}, \frac{4}{8}, \frac{7}{8}$

(a) $\frac{7}{8} > \frac{5}{8} > \frac{4}{8} > \frac{3}{8} > \frac{1}{8}$ (b) $\frac{3}{4} > \frac{3}{5} > \frac{3}{6} > \frac{3}{7} > \frac{3}{9}$

(c) $\frac{1}{4}, \frac{5}{9}, \frac{9}{12}, \frac{4}{7}, \frac{1}{8}$

LCM

2	4, 9, 12, 7, 8
2	2, 9, 6, 7, 4
2	1, 9, 3, 7, 2
3	1, 9, 3, 7, 1
3	1, 3, 1, 7, 1
7	1, 1, 1, 7, 1
	1, 1, 1, 1, 1

$\therefore \quad \text{LCM} = 2 \times 2 \times 2 \times 3 \times 3 \times 7 = 504$

$$\therefore \quad \frac{1}{4}, \frac{5}{9}, \frac{9}{12}, \frac{4}{7}, \frac{1}{8}$$

$$\frac{1 \times 126}{4 \times 126}, \frac{5 \times 56}{9 \times 56}, \frac{9 \times 42}{12 \times 42}, \frac{4 \times 72}{7 \times 72}, \frac{1 \times 63}{8 \times 63}$$

$$\frac{126}{504}, \frac{280}{504}, \frac{378}{504}, \frac{288}{504}, \frac{63}{504}$$

$$\because \quad \frac{378}{504} > \frac{288}{504} > \frac{280}{504} > \frac{126}{504} > \frac{63}{504}$$

$$\therefore \quad \frac{9}{12} > \frac{4}{7} > \frac{5}{9} > \frac{1}{4} > \frac{1}{8}$$

(d) LCM

2	6, 7, 35, 7, 9
3	3, 7, 35, 7, 9
3	1, 7, 35, 7, 3
5	1, 7, 35, 7, 1
7	1, 7, 7, 7, 1
	1, 1, 1, 1

$\therefore \quad \text{LCM} = 2 \times 3 \times 3 \times 5 \times 7 = 630$

$$\frac{5}{6} \quad \frac{3}{7} \quad \frac{17}{35} \quad \frac{4}{7} \quad \frac{5}{9},$$

$$\frac{5\times105}{6\times105}, \frac{3\times90}{7\times90}, \frac{17\times18}{35\times18}, \frac{4\times90}{7\times90}, \frac{5\times70}{9\times70}$$

$$\frac{525}{630}, \frac{270}{630}, \frac{306}{630}, \frac{360}{630}, \frac{350}{630}$$

$$\because \quad \frac{525}{630} > \frac{360}{630} > \frac{350}{630} > \frac{306}{630} > \frac{270}{630}$$

$$\frac{5}{6} > \frac{4}{7} > \frac{5}{9} > \frac{17}{35} > \frac{3}{7}$$

Exercise - 10.6

1. (a)

$$\frac{15}{12}+\frac{6}{12}$$
$$\frac{15+6}{12}$$
$$\frac{21}{12}$$
$$1\frac{9}{12}$$
$$1\frac{3}{4}$$

(b)

$$\frac{5}{6}+\frac{1}{12}$$
$$\frac{5\times2}{6\times2}+\frac{1}{12}$$
$$\frac{10}{12}+\frac{1}{12}$$
$$\frac{10+1}{12}$$
$$\frac{11}{12}$$

(c)

$$\frac{3}{4}+\frac{3}{8}$$
$$\frac{3\times2}{4\times2}+\frac{3}{8}$$
$$\frac{6}{8}+\frac{3}{8}$$
$$\frac{6+3}{8}$$
$$\frac{9}{8}$$
$$1\frac{1}{8}$$

(d)

$$\frac{9}{14}+\frac{6}{7}$$
$$\frac{9}{14}+\frac{6\times2}{7\times2}$$
$$\frac{9}{14}+\frac{12}{14}$$
$$\frac{9+12}{14}$$
$$\frac{21}{14}$$
$$1\frac{7}{14}$$
$$1\frac{1}{2}$$

(e)

$$\frac{3}{10}+\frac{4}{15}$$
$$\frac{3\times3}{10\times3}+\frac{4\times2}{15\times2}$$
$$\frac{9}{30}+\frac{8}{30}$$
$$\frac{9+8}{30}$$
$$\frac{17}{30}$$

(f)

$$\frac{7}{16}+\frac{5}{24}$$
$$\frac{7\times3}{16\times3}+\frac{5\times2}{24\times2}$$
$$\frac{21}{48}+\frac{10}{48}$$
$$\frac{21+10}{48}$$
$$\frac{31}{48}$$

(g)

$$\frac{5}{12}+\frac{1}{4}$$
$$\frac{5}{12}+\frac{1\times3}{4\times3}$$
$$\frac{5}{12}+\frac{3}{12}$$
$$\frac{5+3}{12}$$
$$\frac{8}{12}$$
$$\frac{2}{3}$$

(h)

$$\frac{11}{15}+\frac{1}{6}$$
$$\frac{11\times2}{15\times2}+\frac{1\times5}{6\times5}$$
$$\frac{22}{30}+\frac{5}{30}$$
$$\frac{22+5}{30}$$
$$\frac{27}{30}$$
$$\frac{9}{10}$$

2. (a)

$$3\frac{1}{4}+2\frac{2}{3}$$
$$3+\frac{1}{4}+2+\frac{2}{3}$$
$$(3+2)+\left(\frac{1}{4}+\frac{2}{3}\right)$$
$$5+\left(\frac{1\times3}{4\times3}+\frac{2\times4}{3\times4}\right)$$
$$5+\left(\frac{3}{12}+\frac{8}{12}\right)$$
$$5+\frac{3+8}{12}$$
$$5+\frac{11}{12}$$
$$5\frac{11}{12}$$

(b)

$$4\frac{1}{8}+2\frac{1}{2}$$
$$4+\frac{1}{8}+2+\frac{1}{2}$$
$$4+2+\left(\frac{1}{8}+\frac{1}{2}\right)$$
$$6+\left(\frac{1}{8}+\frac{1\times4}{2\times4}\right)$$
$$6+\left(\frac{1}{8}+\frac{4}{8}\right)$$
$$6+\frac{1+4}{8}$$
$$6+\frac{5}{8}$$
$$6\frac{5}{8}$$

(c)

$$5\frac{1}{5}+6\frac{1}{6}$$
$$5+\frac{1}{5}+6+\frac{1}{6}$$
$$(5+6)+\left(\frac{1}{5}+\frac{1}{6}\right)$$
$$11+\left(\frac{1\times6}{5\times6}+\frac{1\times5}{6\times5}\right)$$
$$11+\left(\frac{6}{30}+\frac{5}{30}\right)$$
$$11+\frac{11}{30}$$
$$11\frac{11}{30}$$

(d)

$$7\frac{1}{3}+1\frac{1}{2}$$
$$1+\frac{1}{3}+1+\frac{1}{2}$$
$$(7+1)+\left(\frac{1}{3}+\frac{1}{2}\right)$$
$$8+\left(\frac{2}{6}+\frac{3}{6}\right)$$

(e)

$$5\frac{1}{4}+1\frac{1}{8}$$
$$5+\frac{1}{4}+1+\frac{1}{8}$$
$$(5+1)+\left(\frac{1}{4}+\frac{1}{8}\right)$$
$$6+\left(\frac{1\times2}{4\times2}+\frac{1\times1}{8}\right)$$

(f)

$$2\frac{1}{12}+1\frac{1}{4}$$
$$2+\frac{1}{12}+1+\frac{1}{4}$$
$$(2+1)+\left(\frac{1}{12}+\frac{1}{4}\right)$$
$$3+\left(\frac{1}{12}+\frac{1\times3}{4\times3}\right)$$

$$8+\frac{5}{6}$$

$$8\frac{5}{6}$$

$$6+\left(\frac{2}{8}+\frac{1}{8}\right)$$

$$6+\left(\frac{2+1}{8}\right)$$

$$6+\frac{3}{8}$$

$$6\frac{3}{8}$$

$$3+\left(\frac{1}{12}+\frac{3}{12}\right)$$

$$3+\frac{1+3}{12}$$

$$3+\frac{4}{12}$$

$$3+\frac{1}{3}$$

$$3\frac{1}{3}$$

(g)

$$2\frac{3}{4}+1\frac{5}{16}$$

$$2+\frac{3}{4}+1+\frac{5}{16}$$

$$(2+1)+\left(\frac{3}{4}+\frac{5}{16}\right)$$

$$3+\left(\frac{3\times4}{4\times4}+\frac{5}{16}\right)$$

$$3+\left(\frac{12}{6}+\frac{5}{16}\right)$$

$$3+\left(\frac{12+5}{16}\right)$$

$$3+\frac{17}{16}$$

$$3+1\frac{1}{16}$$

$$3+1+\frac{1}{16}$$

$$4+\frac{1}{16}$$

$$4\frac{1}{16}$$

(h)

$$2\frac{1}{4}+1\frac{7}{8}$$

$$2+\frac{1}{4}+1+\frac{7}{8}$$

$$(2+1)+\left(\frac{1}{4}+\frac{7}{8}\right)$$

$$3+\left(\frac{1\times2}{4\times2}+\frac{7}{8}\right)$$

$$3+\left(\frac{2}{8}+\frac{7}{8}\right)$$

$$3+\left(\frac{2+7}{8}\right)$$

$$3+\frac{9}{8}$$

$$3+1\frac{1}{8}$$

$$3+1+\frac{1}{8}$$

$$4+\frac{1}{8}$$

$$4\frac{1}{8}$$

3. (a)

$$\frac{4}{9}+\frac{6}{18}+\frac{5}{9}$$

$$\frac{4\times2}{9\times2}+\frac{6}{18}+\frac{5\times2}{9\times2}$$

(b)

$$\frac{6}{20}+\frac{6}{10}+\frac{14}{20}$$

$$\frac{6}{20}+\frac{6\times2}{10\times2}+\frac{14}{20}$$

(c)

$$\frac{1}{12}+\frac{1}{2}+\frac{8}{12}$$

$$\frac{1}{12}+\frac{1\times6}{2\times6}+\frac{8}{12}$$

$$\frac{8}{18}+\frac{6}{18}+\frac{10}{18}$$
$$\frac{8+6+10}{18}$$
$$\frac{24}{18}$$
$$1\frac{6}{18}$$
$$1\frac{1}{3}$$

$$\frac{6}{20}+\frac{12}{20}+\frac{14}{20}$$
$$\frac{6+12+14}{20}$$
$$\frac{32}{20}$$
$$1\frac{12}{20}$$
$$1\frac{3}{5}$$

$$\frac{1}{12}+\frac{6}{12}+\frac{8}{12}$$
$$\frac{1+6+8}{12}$$
$$\frac{15}{12}$$
$$1\frac{3}{12}$$
$$1\frac{1}{4}$$

(d)
$$\frac{3}{4}+\frac{3}{8}+\frac{3}{8}$$
$$\frac{3\times2}{4\times2}+\frac{3}{8}+\frac{3}{8}$$
$$\frac{6}{8}+\frac{3}{8}+\frac{3}{8}$$
$$\frac{6+3+3}{8}$$
$$\frac{12}{8}$$
$$1\frac{4}{8}$$
$$1\frac{1}{2}$$

Exercise - 10.7

1. (a)
$$\frac{8}{5}-\frac{6}{5}$$
$$\frac{8-6}{5}$$
$$\frac{3}{5}$$

(b)
$$\frac{7}{6}-\frac{4}{6}$$
$$\frac{7-4}{6}$$
$$\frac{3}{6}$$
$$\frac{1}{2}$$

(c)
$$\frac{3}{11}-\frac{1}{11}$$
$$\frac{3-1}{11}$$
$$\frac{2}{11}$$

(d)
$$5\frac{2}{5}-2\frac{1}{5}$$
$$5+\frac{2}{5}-\left(2+\frac{1}{5}\right)$$

(e)
$$3\frac{26}{27}-2\frac{1}{27}$$
$$\left(3+\frac{26}{27}\right)-\left(2+\frac{1}{27}\right)$$

(f)
$$1\frac{5}{6}-\frac{1}{6}$$
$$1+\frac{5}{6}-\frac{1}{6}$$

$$5-2+\left(\frac{2}{5}-\frac{1}{5}\right)$$
$$3+\frac{2-1}{5}$$
$$3+\frac{1}{5}$$
$$3\frac{1}{5}$$

$$(3-2)+\left(\frac{26}{27}-\frac{1}{27}\right)$$
$$1+\frac{26-1}{27}$$
$$1+\frac{25}{27}$$
$$1\frac{25}{27}$$

$$1+\frac{5-1}{6}$$
$$1+\frac{4}{6}$$
$$1+\frac{2}{3}$$
$$1\frac{2}{3}$$

(g)
$$1\frac{2}{3}-\frac{4}{3}$$
$$\frac{5}{3}-\frac{4}{3}$$
$$\frac{5-4}{3}$$
$$\frac{1}{3}$$

(h)
$$7\frac{1}{9}-2\frac{5}{9}$$
$$\frac{64}{9}-\frac{23}{9}$$
$$\frac{64-23}{9}$$
$$\frac{41}{9}$$
$$4\frac{5}{9}$$

2. (a)
$$\frac{2}{5}-\frac{3}{8}$$
$$=\frac{2\times8}{5\times8}-\frac{3\times5}{8\times5}$$
$$=\frac{16}{40}-\frac{15}{40}$$
$$=\frac{16-15}{40}$$
$$=\frac{1}{40}$$

(b)
$$\frac{13}{16}-\frac{11}{20}$$
$$=\frac{13\times5}{16\times5}-\frac{11\times4}{20\times4}$$
$$=\frac{65}{80}-\frac{44}{80}$$
$$=\frac{65-44}{80}$$
$$=\frac{21}{80}$$

(c)
$$\frac{92}{15}-\frac{56}{30}$$
$$=\frac{92\times2}{15\times2}-\frac{56}{30}$$
$$=\frac{184}{30}-\frac{56}{30}$$
$$=\frac{184-56}{30}$$
$$=\frac{128}{30}$$
$$=4\frac{8}{30}$$
$$=4\frac{4}{15}$$

(d)
$$6\frac{1}{2}-4\frac{5}{6}$$
$$\left(6+\frac{1}{2}\right)-\left(4+\frac{5}{6}\right)$$

(e)
$$9\frac{8}{5}-7\frac{4}{15}$$
$$9+\frac{8}{5}-\left(7+\frac{4}{15}\right)$$

(f)
$$5\frac{1}{9}-2\frac{1}{18}$$
$$\left(5+\frac{1}{9}\right)-\left(2+\frac{1}{18}\right)$$

$$(6-4)+\left(\frac{1}{2}-\frac{5}{6}\right)$$

$$2+\left(\frac{1\times3}{2\times3}-\frac{5}{6}\right)$$

$$2+\left(\frac{3}{6}-\frac{5}{6}\right)$$

$$2+\left(\frac{3-5}{6}\right)$$

$$2-\frac{2}{6}$$

$$\frac{12-2}{6}$$

$$\frac{10}{6}$$

$$1\frac{4}{6}$$

$$1\frac{2}{3}$$

$$(9-7)+\left(\frac{8}{5}-\frac{4}{15}\right)$$

$$2+\left(\frac{8\times3}{5\times3}-\frac{4}{15}\right)$$

$$2+\frac{24-4}{15}$$

$$2+\frac{20}{15}$$

$$2+\frac{4}{3}$$

$$2+1\frac{1}{3}\quad 3\frac{1}{3}$$

$$2+1+\frac{1}{3}$$

$$3+\frac{1}{3}$$

$$3\frac{1}{3}$$

$$(5-2)+\left(\frac{1}{9}-\frac{1}{18}\right)$$

$$3+\left(\frac{1\times2}{9\times2}-\frac{1}{18}\right)$$

$$3+\left(\frac{2}{18}-\frac{1}{18}\right)$$

$$3+\left(\frac{2-1}{18}\right)$$

$$3+\frac{1}{18}$$

$$3\frac{1}{18}$$

(g) $3\frac{1}{3}-2\frac{1}{4}$

$$\left(3+\frac{1}{3}\right)-\left(2+\frac{1}{4}\right)$$

$$(3-2)+\left(\frac{1}{3}-\frac{1}{4}\right)$$

$$1+\left(\frac{1\times4}{3\times4}-\frac{1\times3}{4\times3}\right)$$

$$1+\left(\frac{4}{12}-\frac{3}{12}\right)$$

$$1+\left(\frac{4-3}{12}\right)$$

$$1+\frac{1}{12}$$

$$1\frac{1}{12}$$

(h) $3\frac{1}{6}-1\frac{2}{3}$

$$\frac{19}{6}-\frac{5}{3}$$

$$\frac{19}{6}-\frac{5\times2}{3\times2}$$

$$\frac{19}{6}-\frac{10}{6}$$

$$\frac{19-10}{6}$$

$$\frac{9}{6}$$

$$1\frac{3}{6}$$

$$1\frac{1}{2}$$

Exercise - 10.8

1. Isha travelled on Monday $= \frac{1}{4}$ km

   Isha travelled on Tuesday $= \frac{7}{16}$ km

   Isha travelled on Wednesday $= \frac{5}{4}$ km

   Total distance travelled by Isha

$$= \frac{1}{4} + \frac{7}{16} + \frac{5}{4}$$

$$= \frac{1 \times 4}{4 \times 4} + \frac{7}{16} + \frac{5 \times 4}{4 \times 4}$$

$$= \frac{4}{16} + \frac{7}{16} + \frac{20}{16}$$

$$= \frac{4 + 7 + 20}{16}$$

$$= \frac{31}{16} \text{ km}$$

$$= 1\frac{15}{16} \text{ km}$$

2. Amar bought cloth $= 11\frac{4}{5}$ m

   Amar used cloth $= 3\frac{1}{5}$

   Cloth left with Amar

$$= 11\frac{4}{5} - 3\frac{1}{5}$$

$$= \left(11 + \frac{4}{5}\right) - \left(3 + \frac{1}{5}\right)$$

$$= (11 - 3) + \left(\frac{4}{5} - \frac{1}{5}\right)$$

$$= 8 + \frac{4 - 1}{5}$$

$$= 8 + \frac{3}{5}$$

$$= 8\frac{3}{5} \text{m}$$

3. Anil bought Apples $= 3\frac{1}{2}$ kg

Anil bought Mangoes $= 3\frac{2}{3}$ kg

Anil bought Guava $= 4\frac{3}{4}$ kg

Fruits bought by Anil

$$= 3\frac{1}{2} + 3\frac{2}{3} + 4\frac{3}{4}$$

$$= 3 + \frac{1}{2} + 3 + \frac{2}{3} + 4 + \frac{3}{4}$$

$$= (3+3+4) + \left(\frac{1}{2} + \frac{2}{3} + \frac{3}{4}\right)$$

$$= 10 + \left(\frac{1\times6}{2\times6} + \frac{2\times4}{3\times4} + \frac{3\times3}{4\times3}\right)$$

$$= 10 + \left(\frac{6}{12} + \frac{8}{12} + \frac{9}{12}\right)$$

$$= 10 + \left(\frac{6+8+9}{12}\right)$$

$$= 10 + \frac{23}{12}$$

$$= 10 + 1\frac{11}{12}$$

$$= 11\frac{11}{12} \text{ kg}$$

4. Plays in morning $\frac{3}{5}$ hours,

Plays in evening $\frac{1}{4}$ hours,

Time spend in playing :

$$= \frac{3}{5} + \frac{1}{4}$$

$$= \frac{3\times4}{5\times4} + \frac{1\times5}{4\times5}$$

$$= \frac{12}{20} + \frac{5}{20}$$

$$= \frac{12+5}{20}$$

$$= \frac{17}{20} \text{ hours}$$

5. Gajendra had wheat $= 100$ kg

Gajendra sold wheat $= 54\frac{3}{4}$ kg

Wheat left with Gajendra

$$= 100 \text{ kg} - 54\frac{3}{4}$$

$$= 100 - \left(54 + \frac{3}{4}\right)$$

$$= 100 - 54 - \frac{3}{4}$$

$$= 46 - \frac{3}{4}$$

$$= \frac{46 \times 4 - 3}{4}$$

$$= \frac{184 - 3}{4}$$

$$= \frac{181}{4} \text{ kg}$$

$$= 45\frac{1}{4} \text{ kg}$$

6. Total distance $= 2\frac{1}{2}$ kg

Gone on cycle $= 1\frac{1}{4}$ kg

Distance Ravi walked

$$= 2\frac{1}{2} - 1\frac{1}{4}$$

$$= 2 + \frac{1}{2} - \left(1 + \frac{1}{4}\right)$$

$$= (2 - 1) + \left(\frac{1}{2} - \frac{1}{4}\right)$$

$$= 1 + \left(\frac{1 \times 2}{2 \times 2} - \frac{1}{4}\right)$$

$$= 1 + \left(\frac{2}{4} - \frac{1}{4}\right) = 1 + \left(\frac{2 - 1}{4}\right)$$

$$= 1 + \frac{1}{4}$$

$$= 1\frac{1}{4} \text{ km}$$

7. Arun had $= ₹\, 3\frac{1}{2}$

His father given $= ₹\, 5\frac{1}{4}$

Arun had now

$$= 3\frac{1}{2} + 5\frac{1}{4}$$

$$= 3 + \frac{1}{2} + 5 + \frac{1}{4}$$

$$= (3+5) + \left(\frac{1}{2} + \frac{1}{4}\right)$$

$$= 8 + \left(\frac{1 \times 2}{2 \times 2} + \frac{1}{4}\right)$$

$$= 8 + \left(\frac{2}{4} + \frac{1}{4}\right)$$

$$= 8 + \frac{2+1}{4}$$

$$= 8 + \frac{3}{4}$$

$$= ₹\, 8\frac{3}{4}$$

8. Ram's mother have 4 apples given to friends

$$= \frac{1}{2} + \frac{1}{2} + \frac{1}{2}$$

$$= \frac{3}{2}$$

Apples remained $= 4 - \frac{3}{2}$

$$= \frac{4 \times 2 - 3}{2}$$

$$= \frac{8-3}{2}$$

$$= \frac{5}{2}$$

$$= 2\frac{1}{2} \text{ Apples}$$

9. Questions Incomplete

10. Time spend in Chemistry $= \frac{1}{2}$ hrs

Time spend in Biology $= \frac{3}{4}$ hrs

Total time spend

$$= \frac{1}{2} + \frac{3}{4}$$

$$= \frac{1 \times 2}{2 \times 2} + \frac{3}{4}$$

$$= \frac{2}{4} + \frac{3}{4}$$

$$= \frac{2+3}{4} = \frac{5}{4}$$

$$= 1\frac{1}{4} \text{ hrs}$$

11. Students prefers basket ball $= \frac{3}{5} \times 35$

$$= 3 \times 7 = 21$$

Students like cricket $= 35 - 21 = 14$

12. Need to pay $= \frac{2}{5}$ of 3000

$$= \frac{2}{5} \times 3000$$

$$= 2 \times 600$$

$$= ₹\ 1200$$

13. Shyam $= \frac{7}{8}$ of 176 cm

$$= \frac{7}{8} \times 176 \text{ cm}$$

$$= 7 \times 22$$

Shyam $= 154$ cm tall

MCQs

1. a, 2. a, 3. b, 4. c

Text Exercise

1. (a) $4 \div 5 = \frac{4}{5}$ (b) $20 \div 5 = \frac{20}{5}$ (c) $12 \div 7 = \frac{12}{7}$ (d) $9 \div 5 = \frac{9}{15}$

2. (a) $\frac{3}{4} = 3 \div 4$ (b) $\frac{13}{5} = 13 \div 5$ (c) $\frac{9}{16} = 9 \div 16$ (d) $\frac{20}{6} = 20 \div 6$

3. (a) $\frac{3}{5} = \frac{3 \times 2}{5 \times 2} = \frac{3 \times 3}{5 \times 3} = \frac{3 \times 4}{5 \times 4}$

   $\frac{3}{5} = \frac{6}{10} = \frac{9}{15} = \frac{12}{20}$

   (b) $\frac{1}{2} = \frac{1 \times 2}{2 \times 2} = \frac{1 \times 3}{2 \times 3} = \frac{1 \times 4}{2 \times 4} = \frac{1 \times 5}{2 \times 5}$

   $\frac{1}{2} = \frac{2}{4} = \frac{3}{6} = \frac{4}{8} = \frac{5}{10}$

   (c) $\frac{2}{3} = \frac{2 \times 2}{3 \times 2} = \frac{2 \times 3}{3 \times 3} = \frac{2 \times 4}{3 \times 4}$

   $\frac{2}{3} = \frac{4}{6} = \frac{6}{9} = \frac{8}{12}$

   (d) $\frac{3}{4} = \frac{3 \times 2}{4 \times 2} = \frac{3 \times 3}{4 \times 3} = \frac{3 \times 4}{4 \times 4}$

   $\frac{3}{4} = \frac{6}{8} = \frac{9}{12} = \frac{12}{16}$

   (e) $\frac{6}{7} = \frac{6 \times 2}{7 \times 2} = \frac{6 \times 3}{7 \times 3} = \frac{6 \times 4}{7 \times 4}$

   $\frac{6}{7} = \frac{12}{14} = \frac{18}{21} = \frac{24}{28}$

4. (a) $\frac{3}{4} = \frac{12}{\boxed{16}}$ (b) $\frac{6}{9} = \frac{\boxed{30}}{45}$

   (c) $\frac{20}{28} = \frac{5}{\boxed{7}}$ (d) $\frac{48}{56} = \frac{\boxed{6}}{7}$

5. (a) $\frac{25}{30} = \frac{25 \div 5}{30 \div 5} = \frac{5}{6}$ (b) $\frac{35}{45} = \frac{35 \div 5}{45 \div 5} = \frac{7}{9}$

   (c) $\frac{16}{18} = \frac{16 \div 2}{18 \div 2} = \frac{8}{9}$ (d) $\frac{24}{32} = \frac{24 \div 8}{32 \div 8} = \frac{3}{4}$

6. $\frac{5}{6}, \frac{5}{7}, \frac{5}{11}, \frac{5}{9}$

   $\frac{5}{11} < \frac{5}{9} < \frac{5}{7} < \frac{5}{6}$

7. Ist Jump IInd Jump

   $\frac{3}{4}$ $\frac{4}{5}$

   3×5 4×4

   $15 < 16$

   IInd Jump is longer.

8. Partica walked Nadia walked

$\because \quad 3\frac{1}{3} \quad > \quad 2\frac{2}{7}$

Partica walked more.

9. $\frac{1}{2}+\frac{1}{4}+\frac{1}{8}$

$$=\frac{1\times4}{2\times4}+\frac{1\times2}{4\times2}+\frac{1\times1}{8\times1}=\frac{4}{8}+\frac{2}{8}+\frac{1}{8}$$

$$=\frac{4+2+1}{8}=\frac{7}{8}$$

10. $\frac{1}{2}-\frac{1}{4}-\frac{1}{8}$

$$=\frac{1\times4}{2\times4}-\frac{1\times2}{4\times2}-\frac{1}{8}=\frac{4}{8}-\frac{2}{8}-\frac{1}{8}$$

$$=\frac{4-2-1}{8}=\frac{2-1}{8}=\frac{1}{8}$$

11. Let x should be added :

$$\frac{1}{3}+x=\frac{1}{2}$$

$$x=\frac{1}{2}-\frac{1}{3}=\frac{1\times3}{2\times3}-\frac{1\times2}{3\times2}$$

$$=\frac{3}{6}-\frac{2}{6}=\frac{3-2}{6}=\frac{1}{6}$$

$\therefore \quad \frac{1}{6}$ should be added to $\frac{1}{3}$ to get $\frac{1}{2}$.

12. $1-\frac{3}{4}$

$$=\frac{1\times4}{1\times4}-\frac{3}{4}=\frac{4}{4}-\frac{3}{4}$$

$$=\frac{4-3}{4}=\frac{1}{4}$$

13. Sarah drinks Ronald drinks

$\frac{1}{5} \qquad \frac{1}{4}$

$\because \quad \frac{1\times4}{4} \quad < \quad \frac{1\times5}{5}$

Ronald drink more.

11 Decimals

Exercise - 11.1

1. (a) $\frac{3}{10} = 0.3$ (b) $\frac{5}{10} = 0.5$
   (c) $\frac{4}{10} = 0.4$ (d) $\frac{7}{10} = 0.7$
2. (a) 1.2 (b) 3.3
   (c) 3.5 (d) 2.7
   (e) 2.9

Exercise - 11.2

1. (a) $\frac{30}{10} = 3.0$ (b) $\frac{52}{100} = 0.52$ (c) $\frac{123}{1000} = 0.123$
   (d) $\frac{4371}{100} = 4.371$ (e) $\frac{76}{10} = 7.6$ (f) $\frac{235}{100} = 2.35$
2. (a) $4\frac{5}{10} = 4.5$ (b) $6\frac{11}{100} = 6.11$ (c) $76\frac{150}{1000} = 76.150$
   (d) $51\frac{4}{10} = 51.4$ (e) $25\frac{1}{100} = 25.01$ (f) $423\frac{23}{1000} = 423.023$
3. (a) 0.76 = zero point seven six
   (b) 2.09 = two point zero nine
   (c) 8.731 = eight point seven three one
   (d) 9.5 = nine point five
   (e) 125-05 = one hundred twenty five point zero five
   (f) 411.120 = four hundred eleven point one two zero
4. (a) $0.3\underline{5}6 = \frac{5}{100}$ (b) $0.\underline{3}99 = \frac{3}{10}$ (c) $0.17\underline{5} = \frac{5}{1000}$
   (d) $1.0\underline{8}1 = \frac{8}{100}$ (e) $19.7\underline{5}6 = \frac{5}{100}$ (f) $8\underline{7}9.03 = 70$
   (g) $\underline{1}45.075 = 100$ (h) $3.750 = \frac{5}{100}$ (i) $1\underline{3}.758 = 3$
   (j) $201.787 = \frac{8}{100}$
5. (a) 37.018 = Thirty seven point zero one eight
   (b) 354.075 = Three hundred fifty four point zero seven five
   (c) 8.356 = Eight point three five six
   (d) 135.09 = One hundred thirty five point zero nine
   (e) 75.135 = Seventy five point one three five
   (f) 25.956 = Twenty five point nine five six
   (g) 4.003 = Four point zero zero three
   (h) 5.018 = Five point zero one eight

(i) 23.180 = Twenty three point one eight zero
(j) 43.189 = Forty three point one eight nine

Exercise - 11.3

1. (a) $0.96 = \frac{9}{10} + \frac{6}{100}$ or $0.9 + 0.06$ (b) $0.135 = \frac{1}{10} + \frac{3}{100} + \frac{5}{1000}$
   (c) $0.507 = \frac{5}{10} + 0 + \frac{7}{1000}$ (d) $0.986 = \frac{9}{10} + \frac{8}{100} + \frac{6}{1000}$
   (e) $1.208 = 1 + \frac{2}{10} + 0 + \frac{8}{1000}$
   (f) $427.003 = 400 + 20 + 7 + 0 + 0 + \frac{3}{1000}$
2. (a) $6.0\underline{7} = \frac{7}{100}$ (b) $18.\underline{2}4 = \frac{2}{10}$ (c) $436.00\underline{5} = \frac{5}{1000}$
   (d) $346\underline{9}.18 = 9$ (e) $72.0\underline{1}5 = \frac{1}{100}$ (f) $11.12\underline{6} = \frac{6}{1000}$
3. (a) 96.39 (b) 929.008 (c) 176.809
   (d) 1509.101

Exercise - 11.4

1. (a) 0.5, 0.96✓ (b) 0.5, 0.78✓ (c) 0.543✓, 0.11
   (d) 0.78✓, 0.3 (e) 0.34✓, 0.231 (f) 0.99✓, 0.5
2. (a) 0.089✗, 0.5 (b) 0.78✗, 0.987 (c) 0.777, 0.7✗
   (d) 0.909✗, 0.99 (e) 0.545✗, 0.55 (f) 0.111, 0.1✗
3. (a) 9.96 $\boxed{>}$ 0.91 (b) 44.287 $\boxed{<}$ 44.398 (c) 500.5 $\boxed{=}$ 500.500
   (d) 6.0 $\boxed{=}$ 6.000 (e) 86.90 $\boxed{>}$ 86.09 (f) 3.93 $\boxed{>}$ 3.90
   (g) 1.16 $\boxed{>}$ 0.84 (h) 0.745 $\boxed{<}$ 0.749
4. (a) $2.1 < 5.1 < 6.1 < 8.7$ (b) $4.44 < 5.55 < 6.66 < 11.11$
   (c) $12.12 < 14.60 < 16.11 < 29.23$ (d) $2.01 < 2.1 < 2.11 < 16.5$
5. (a) $181.5 > 127.7 > 116.8 > 22.7$ (b) $72.5 > 27.7 > 8.11 > 8.1$
   (c) $29.8 > 19.7 > 6.7 > 1.1$ (d) $66.6 > 51.5 > 29.88 > 12.1$

Exercise - 11.5

1. (a)
```
  219.320
+ 008.412
+ 137.800
  365.532
```
(b)
```
   75.318
+  51.296
+ 120.511
  247.125
```
(c)
```
    4.008
+  52.800
+ 174.080
  230.080
```
2. (a)
```
  316.85
- 76.14
  240.71
```
(b)
```
  414.76
- 319.17
   94.79
```
(c)
```
  869.007
-  295.60
  573.317
```
3. (a)
```
    5.5
    7.7
+  13.3
   26.5
```
(b)
```
   18.34
   24.27
+  13.56
   56.17
```
(c)
```
  3.801
  3.081
+ 3.018
  9.900
```
4. (a)
```
  28.51
- 17.32
  11.19
```
(b)
```
  48.410
- 16.323
  32.087
```
(c)
```
  92.500
- 26.555
  65.945
```

Exercise - 11.6

1. Weight of Ram = 75.850 kg
   Weight of Shyam = + 95.784 kg
   Total weight = 171.634 kg

2. Length of Rope = 849.765 m
   Rope sold = – 698.075 m
   Rope left = 151.015 m

3. Weight of 1 car = 875.075 kg
   No. of cars = × 8
   Weight of 8 cars = 7000.600 kg

4. Length of wire = 72.96
   No. of pieces = 8
   Length of each piece = 72.96 ÷ 8
   = 9.12 m

```
8)72.96(9.12
 -72
   9
  -8
   16
  -16
    ×
```

5. Weight of Sugar = 456.85 kg
   No. of boys = 8
   Each get = 456.85 ÷ 5
   = 91.37 kg

```
5)456.85(91.37
 -45
   06
  -5
   18
  -15
    35
   -35
     0
```

6. Spend on basket ₹ 75.50
   Spend on iron ₹ 756.85
   Spend on DVD ₹ 2456.35
   Total spend + ₹ 3288.70

7. Distance covered in 1 day = 185.25 kg
   Days = 7
   Distance covered in 7 days = 185.25 × 7
   = 1296.75 km

```
185.25
   × 7
1296.75
```

8. Cost of 1 DVD player = ₹ 4107.25
   Cost of 9 DVD player = ₹ 4107.25 × 9
   = ₹ 36965.25

```
4107.25
    × 9
36965.25
```

9. Weight of Ram = 98.750 kg
   Weight of Reeta = – 48.650 kg
   Weight difference = 50.100 kg

10. Cost of video game = ₹ 985.75
    Money saved ₹ 645.50
    Money to be saved ₹ 340.25

11. Cost of 1 pencil = ₹ 1331.00 ÷ 11 = ₹ 121.00

$$\begin{array}{r} 11\overline{)1331}(121 \\ \underline{11} \\ 23 \\ \underline{22} \\ 11 \\ \underline{-11} \\ 0 \end{array}$$

12. S.P of goods = ₹ 9450.75
CP of goods = − ₹ 8750.25
Gain = ₹ 700.50

MCQs

1. b 2. a 3. a $\begin{array}{r} 10.1 \\ +\ 18.203 \\ \hline 28.303 \end{array}$ 4. b $\begin{array}{r} 19.00 \\ -\ 16.76 \\ \hline 2.24 \end{array}$

Test Exercise

1. (a) 0.7 (b) 0.65 (c) 3.13
(d) 5.03 (e) 3.003 (f) 13.07

2. (a) $0.23 = \frac{23}{100}$ (b) $0.015 = \frac{15}{1000}$ (c) $4.04 = \frac{404}{100}$

3. (a) 5.125 (b) 156.84 (c) 26.875
(d) 1036.078 (e) 3460.837 (f) 287.976

4. (a) 3 in 5.03 = $\frac{3}{100}$ (b) 6 in 1.456 = $\frac{6}{1000}$ (c) 7 in 2.97 = $\frac{7}{100}$

5. (a) 6.02 $\boxed{>}$ 5.96 (b) 0 $\boxed{<}$ 58 (c) 0.1 $\boxed{<}$ 1.0

6. (a) $\begin{array}{r} 0.13 \\ +\ 0.5 \\ \hline 0.63 \end{array}$ (b) $\begin{array}{r} 0.8 \\ +\ 1.2 \\ \hline 2.0 \end{array}$ (c) $\begin{array}{r} 2.3 \\ +\ 1.2 \\ \hline 3.5 \end{array}$

(d) $\begin{array}{r} 0.11 \\ +\ 0.33 \\ \hline 0.44 \end{array}$ (e) $\begin{array}{r} 1.3 \\ 0.4 \\ +\ 1.2 \\ \hline 2.9 \end{array}$ (f) $\begin{array}{r} 0.14 \\ +\ 0.14 \\ \hline 0.28 \end{array}$

(g) $\begin{array}{r} 0.55 \\ +\ 0.105 \\ \hline 0.655 \end{array}$ (h) $\begin{array}{r} 0.015 \\ +\ 0.085 \\ \hline 0.100 \end{array}$ (i) $\begin{array}{r} 9.6 \\ -\ 0.03 \\ \hline 9.63 \end{array}$

7. (a) $\begin{array}{r} 0.8 \\ -\ 0.5 \\ \hline 0.3 \end{array}$ (b) $\begin{array}{r} 0.9 \\ -\ 0.6 \\ \hline 0.3 \end{array}$ (c) $\begin{array}{r} 2.26 \\ -\ 0.16 \\ \hline 2.10 \end{array}$

(d) $\begin{array}{r} 4.8 \\ -\ 3.5 \\ \hline 1.3 \end{array}$ (e) $\begin{array}{r} 0.55 \\ -\ 0.11 \\ \hline 0.44 \end{array}$ (f) $\begin{array}{r} 0.75 \\ -\ 0.25 \\ \hline 0.50 \end{array}$

(g) $\begin{array}{r} 8.8 \\ -\ 5.7 \\ \hline 3.1 \end{array}$ (h) $\begin{array}{r} 0.725 \\ -\ 0.415 \\ \hline 0.310 \end{array}$ (i) $\begin{array}{r} 11.76 \\ -\ 7.43 \\ \hline 4.33 \end{array}$

12 Measurement

Exercise - 12.1

1. (a) Centimetres (b) Miligrams (c) Metre
   (d) Litre (e) Kilometer (f) Kilograms
   (g) milligram

2. (a) 25 m = 2500 cm (b) 8 km = 8000 m
   (c) 15 kg = 15000 g (d) 7 *l* = 7000 ml
   (e) 16 *l* = 16000 ml (f) 9 kg = 9000 g

3. (a) 10 mm • 100 cm (b) 100 ml • 1 l
   10 mm < 1000 mm 100 ml < 1000 ml
   (c) 1000 g • 1 kg (d) 23 g • 230 mg
   1000 g = 1000 g 23000 mg > 230 mg
   (e) 6000 ml = 6 l (f) 15 m > 150 mm

Exercise - 12.2

1. (a) 2 m 16 cm
   2 × 100 cm + 16 cm
   200 cm + 16 cm
   216 cm

   (b) 1 m 91 cm
   1 × 100 cm + 91 cm
   100 cm + 91 cm
   191 cm

   (c) 5 m
   5 × 100 cm
   500 cm

   (d) 4 m 22 cm
   4 × 100 cm + 22 cm
   400 cm + 22 cm
   422 cm

   (e) 3 m 7 cm
   3 × 100 cm + 7 cm
   300 cm + 7 cm
   307 cm

   (f) 6 m 12 cm
   6 × 100 cm + 12 cm
   600 cm + 12 cm
   612 cm

   (g) 5 m 82 cm
   5 × 100 cm + 82 cm
   500 cm + 82 cm
   582 cm

   (h) 3 m 19 cm
   3 × 100 cm + 19 cm
   300 cm + 19 cm
   319 cm

   (i) 2 m 66 cm
   2 × 100 cm + 66 cm
   200 cm + 66 cm
   266 cm

   (j) 7 m
   7 × 100 cm
   700 cm

   (k) 1 m 19 cm
   1 × 100 cm + 19 cm
   100 cm + 19 cm
   119 cm

   (l) 2 m 15 cm
   2 × 100 cm + 15 cm
   200 cm + 15 cm
   215 cm

2. (a) 623 cm
600 cm + 23 cm
6 m + 23 cm
6 m 23 cm

(b) 801 cm
800 cm + 01 cm
8 m + 1 cm
8 m 1 cm

(c) 219 cm
200 cm 19 cm
2 m + 19 cm
2 m 19 cm

(d) 618 cm
600 cm + 18 cm
6 m + 18 cm
6 m 18 cm

(e) 506 cm
500 cm + 6 cm
5 m 6 cm

(f) 316 cm
300 cm + 16 cm
3 m + 16 cm
3 m 16 cm

(g) 501 cm
500 cm + 01 cm
5 m + 01 cm
5 m 01 cm

(h) 222 cm
200 cm + 22 cm
2 m + 22 cm
2 m 22 cm

(i) 420 cm
400 cm + 20 cm
4 m + 20 cm
4 m 20 cm

(j) 412
400 cm + 12 cm
4 m + 12 cm
4 m 12 cm

(k) 321 cm
300 cm + 21 cm
3 m + 21 cm
3 m 21 cm

(l) 146 cm
100 cm + 46 cm
1 m + 46 cm
1 m 46 cm

3. (a) 6 m 24 mm
6000 mm + 24 mm
6024 mm

(b) 7 m 218 mm
7 m + 218 mm
7000 mm + 218 mm
7218 mm

(c) 5 m 318 mm
5 m + 318 mm
5000 mm + 318 mm
5318 mm

(d) 3 m 532 mm
3 m + 532 mm
3000 mm + 532 mm
3532 mm

(e) 6 m 9 mm
6 m + 9 mm
6000 mm + 9 mm
6009 mm

(f) 2 m 86 mm
2 m + 86 mm
2000 mm + 86 mm
2086 mm

(g) 1 m 127 mm
1 m + 127 mm
1000 mm + 127 mm
1127 mm

(h) 9 m 128 mm
9 m + 128 mm
9000 mm + 128 mm
9128 mm

(i) 8 m 298 mm
8 m + 298 mm

(j) 3 m 146 mm
3 m + 146 mm

8000 mm + 298 mm
8298 mm

(k) 7 m 7 mm
7 m + 7 mm
7000 mm + 7 mm
7007 mm

(l) 5 m 105 mm
5 m + 165 mm
5000 m + 165 mm
5165 mm

4. (a) 7065 mm
7000 mm + 65 mm
7 m + 65 mm
7 m 65 mm

(b) 9601 mm
9000 mm + 601 mm
9 m + 601 mm
9 m + 601 mm
9 m 601 mm

(c) 1008 mm
1000 mm + 8 mm
1 m + 8 mm
1 m 8 mm

(d) 9601 mm
9000 mm + 601 mm
9 m + 601 mm
9 m 601 mm

(e) 3031 mm
3000 mm + 31 mm
3 m + 31 mm
3 m 31 mm

(f) 20200 mm
20000 mm + 200 mm
20 m + 200 mm
20 m 200 mm

(g) 6117 mm
6000 mm + 117 mm
6 m + 117 mm
6 m 117 mm

(h) 9807 mm
9000 mm + 807 mm
9 m + 807 mm
9 m 807 mm

(i) 7666 mm
7000 mm + 666 mm
7 m + 666 mm
7 m 666 mm

(j) 4312 mm
4000 mm + 312 mm
4 m + 312 mm
4 m 312 mm

(k) 1336 mm
1000 mm + 336 mm
1 m + 336 mm
1 m + 336 mm

(l) 5006 mm
5000 mm + 6 mm
5 m + 6 mm
5 m 6 mm

5. (a) 6 cm 4 mm
6 cm + 4 mm
60 mm + 4 mm
64 mm

(b) 2 cm 8 mm
2 cm + 8 mm
20 mm + 8 mm
28 mm

(c) 1 cm 9 mm
1 cm + 9 mm
10 mm + 9 mm
19 mm

(d) 8 cm
8 × 10 mm
80 mm

(e) 1 cm 8 mm
1 cm + 8 mm

(f) 5 cm 6 mm
5 cm + 6 mm

10 mm + 8 mm
18 mm

(g) 1 cm 8 mm
1 cm + 5 mm
10 mm + 5 mm
15 mm

(h) 9 cm
9 × 10 mm
90 mm

(i) 7 cm 2 cm
7 cm + 2 mm
70 mm + 2 mm
72 mm

(j) 6 cm 5 mm
6 cm + 5 mm
60 mm + 5 mm
65 mm

(k) 4 cm 4 mm
4 cm + 4 mm
40 mm + 4 mm
44 mm

(l) 3 cm
3 × 10 mm
30 mm

6. (a) 66 mm
60 mm + 6 mm
6 cm + 6 mm
6 cm 6 mm

(b) 23 mm
20 mm + 3 mm
2 cm + 3 mm
2 cm 3 mm

(c) 61 mm
60 mm + 1 mm
6 cm + 1 mm
6 cm 1 mm

(d) 43 mm
40 mm + 3 mm
4 cm + 3 mm
4 cm 3 mm

(e) 64 mm
60 mm + 4 mm
6 cm + 4 mm
6 cm 4 mm

(f) 11 mm
10 mm + 1 mm
1 cm + 1 mm
1 cm 1 mm

(g) 54 mm
50 mm + 4 mm
5 cm + 4 mm
5 cm 4 mm

(h) 65 mm
60 mm + 5 mm
6 cm + 5 mm
6 cm 5 mm

(i) 83 mm
80 mm + 3 mm
8 cm + 3 mm
8 cm 3 mm

(j) 46 mm
40 mm + 6 mm
4 cm + 6 mm
4 cm 6 mm

(k) 39 mm
30 mm + 6 mm
30 cm + 6 mm
3 cm 6 cm

(l) 71 mm
70 mm + 1 mm
7 cm + 1 mm
7 cm 1 mm

7. (a) 5 km 218 m
5 km + 218 m
5000 m + 218 m
5218 m

(b) 6 km 323 m
6 km + 323 m
6000 m + 323 m
6323 m

(c) 1 km 65 m
1 km + 65 m
1000 m + 65 m
1065 m

(d) 2 km 212 m
2 km + 212 m
2000 m + 212 m
2212 m

(e) 6 km 31 m
6 km + 31 m
6000 m + 31 m
6031 m

(f) 9 km 45 m
9 km + 45 m
9000 m + 45 m
9045 m

(g) 2 km 698 m
2 km + 698 m
2000 m + 698 m
2698 m

(h) 8 km 612 m
8 km + 612 m
8000 m + 612 m
8612 m

(i) 9 km 245 m
9 km + 245 m
9000 m + 245 m
9245 m

(j) 6 km 124 m
6 km + 124 m
6000 m + 124 m
6124 m

(k) 4 km 4 m
4 km + 4 m
4000 m + 4 m
4004 m

(l) 7 km 12 m
7 km + 12 m
7000 m + 12 m
7012 m

8. (a) 2089 m
2000 m + 89 m
2 km + 89 m
2 km 89 m

(b) 4365 m
4000 m + 365 m
4 km + 365 m
4 km 365 m

(c) 7193 m
7000 m + 193 m
7 km + 193 m
7 km 193 m

(d) 8625 m
8000 m + 625 m
8 km + 625 m
8 km 625 m

(e) 7323 m
7000 m + 323 m
7 km + 323 m
7 km 323 m

(f) 6215 m
6000 m + 215 m
6 km + 215 m
6 km 215 m

(g) 9191 m
9000 m + 191 m
9 km + 191 m
9 km 191 m

(h) 5005 m
5000 m + 5 m
5 km + 5 m
5 km 5 m

(i) 6151 m
6000 m + 151 m
6 km + 151 m
6 km 151 m

(j) 1001 m
1000 m + 1 m
1 km + 1 m
1 km 1 m

(k) 5346 m
5000 m + 346 m
5 km + 346 m
5 km 346 m

(l) 5961 m
5000 m + 961 m
51 km + 961 m
5 km 961 m

Exercise - 12.3

1. (a) 4 kg 652 g
4 kg + 652 g
4000 g + 652 g
4652 g

(b) 5 kg 30 g
5 kg + 30 g
5000 g + 30 g
5030 g

(c) 2 kg 6 g
2 kg + 6 g
2000 g + 6 g
2006 g

(d) 3 kg 825 g
3 kg + 825 g
3000 g + 825 g
3825 g

(e) 2 kg 968 g
2 kg + 968 g
2000 g + 968 g
2968 g

(f) 8 kg 156 g
8 kg + 156 g
8000 g + 156 g
8156 g

2. (a) 6821 g
6000 g + 821 g
6 kg + 821 g
6 kg 821 g

(b) 6211 g
6000 g + 211 g
6 kg + 211 g
6 kg 211 g

(c) 4116 g
4000 g + 166 g
4 kg + 166 g
4 kg 166 g

(d) 1201 g
1000 g + 201 g
1 kg + 201 g
1 kg 201 g

(e) 1166 g
1000 g + 166 g
1 kg + 166 g
1 kg 166 g

(f) 6313 g
6000 g + 313 g
6 kg + 313 g
6 kg 313 g

(g) 7843 g
7000 g + 843 g
7 kg + 843 g
7 kg 843 g

(h) 2095 g
2000 g + 95 g
2 kg + 95 g
2 kg 95 g

(i) 5900 g
5000 g + 900 g
5 kg + 900 g
5 kg 900 g

(j) 6655 g
6000 g + 655 g
6 kg + 655 g
6 kg 655 g

(k) 8888 g
8000 g + 888 g
8 kg + 888 g
8 kg 888 g

(l) 5006 g
5000 g + 6 g
5 kg + 6 g
5 kg 6 g

3. (a) 6128 mg
6000 mg + 128 mg
6 g + 128 mg
6 g 128 mg

(b) 2323 mg
2000 mg + 323 mg
2 g + 323 mg
2 g 323 mg

(c) 1506 mg
1000 mg + 506 mg
1 g + 506 mg
1 g 506 mg

(d) 9899 mg
9000 mg + 899 mg
9 g + 899 mg
9 g 899 mg

(e) 9016 mg
9000 mg + 16 mg
9 g + 16 mg
9 g 16 mg

(f) 9111 mg
9000 mg + 111 mg
9 g + 111 mg
9 g 111 mg

(g) 7869 mg
7000 mg + 869 mg
7 g + 869 mg
7 g 869 mg

(h) 6256 mg
6000 mg + 256 gm
6 g + 256 mg
6 g 256 mg

(j) 3002 mg
3000 mg + 2 mg
3 g + 2 mg
3 g 2 mg

(k) 2007 mg
2000 mg + 7 mg
2 g + 7 mg
2 g 7 mg

(l) 5585 mg
5000 mg + 585 mg
5 g + 585 mg
5 g 585 mg

(m) 5789 mg
5000 mg + 789 mg
5 g + 789 mg
5 g 789 mg

4. (a) 6 g 215 mg
6 g + 215 mg
6000 mg + 215 mg
6215 mg

(b) 5 g 143 mg
5 g + 143 mg
5000 mg + 143 mg
5143 mg

(c) 8 g 103 mg
8 g + 103 mg
8000 mg + 103 mg
8103 mg

(d) 2 g 320 mg
2 g + 320 mg
2000 mg + 320 mg
2320 mg

(e) 7 g 140 mg
7 g + 140 mg
7000 mg + 140 mg
7140 mg

(f) 9 g 182 mg
9 g + 182 mg
9000 mg + 182 mg
9182 mg

(g) 6 g 213 mg
6 g + 213 mg
6000 mg + 213 mg
6213 mg

(h) 9 g 5 mg
9 g + 5 mg
9000 mg + 5 mg
9005 mg

(i) 11 g 4 mg
11 g + 4 mg
11000 mg + 4 mg
11004 mg

(j) 4 g 143 mg
4 g + 143 mg
4000 g + 143 mg
4143 mg

(k) 6 g 30 mg
6 g + 30 mg
6000 mg + 30 mg
6030 mg

(l) 3 g 442 mg
3 g + 442 mg
3000 mg + 442 mg
3442 mg

Exercise - 12.4

1. (a) 6 l 75 ml
6 l + 75 ml
6000 ml + 75 ml
6075 ml

(b) 3 l 105 ml
3 l + 105 ml
3000 ml + 105 ml
3105 ml

(c) 9 l 23 ml
9 l + 23 ml
9000 ml + 23 ml
9023 ml

(d) 2 l 120 ml
2 l + 120 ml
2000 ml + 120 ml
2120 ml

(e) 6 l 532 ml
6 l + 532 ml
6000 ml + 532 ml
6532 ml

(f) 4 l 50 ml
4 l + 50 ml
4000 ml + 50 ml
4050 ml

2. (a) 2133 ml
2000 ml + 133 ml
2 l + 133 mlk
2 l 133 ml

(b) 6215 ml
6000 ml + 215 ml
6 l + 215 ml
6 l 215 ml

(c) 8811 ml
8000 ml + 811 ml
8 l + 811 ml
8 l 811 ml

(d) 9112 ml
9000 ml + 112 ml
9 l + 112 ml
9 l 112 ml

(e) 6655 ml
6000 ml + 655 ml
6 l + 655 ml
6 l 655 ml

(f) 8338 ml
8000 ml + 338 ml
8 l + 338 ml
8 l 338 ml

(g) 8999 ml
8000 ml 999 ml
8 l + 999 ml
8 l 999 ml

(h) 7779 ml
7000 ml + 779 ml
7 l + 779 ml
7 l 779 ml

(i) 3733 ml
3000 ml + 733 ml
3 l + 733 ml
3 l 733 ml

3. (a) 12 kl 14 l
12 kl + 14 l
12000 l + 14 l
12014 l

(b) 1 kl 289 l
1 kl + 289 l
1000 l + 289 l
1289 l

(c) 2 kl 159 l
2 kl + 159 l
2000 l + 159 l
2159 l

(d) 6 kl 5 l
6 kl + 5 l
6000 l + 5 l
6005 l

(e) 2 kl 75 l
2 kl + 75 l
2000 l + 75 l
2075 l

(f) 3 kl 2 l
3 kl + 2 l
3000 l + 2 l
3002 l

(g) 7 kl 15 l
7 kl + 15 l
7000 l + 15 l
7015 l

(h) 9 kl 95 l
9 kl + 95 l
9000 l + 95 l
9095 l

(i) 11 kl 56 l
11 kl + 56 l
11000 l + 56 l
11056 l

4. (a) 2029 l
2000 l + 29 l
2 kl + 29 l
2 kl 29 l

(b) 5652 l
5000 l + 652 l
5 kl + 652 l
5 kl 652 l

(c) 3500 l
3000 l + 500 l
3 kl + 500 l
3 kl 500 l

(d) 6213 l
6000 l + 213 l
6 kl + 213 l
6 kl 213 l

(e) 9009 l
9000 l + 9 l
9 kl + 9 l
9 kl 9 l

(f) 8982 l
8000 l + 982 l
8 kl + 982 l
8 kl 982 l

(g) 7321 l
7000 l + 321 l
7 kl + 321 l
7 kl 321 l

(h) 8007 l
8000 l + 7 l
8 kl + 7 l
8 kl 7 l

(i) 9942 l
9000 l + 942 l
9 kl + 942 l
9 kl 942 l

(j) 5362 l
5000 l + 30 l
5 kg + 362 l
5 kl 362 l

(k) 9927 l
9000 l + 927 l
9 kl + 927 l
9 kl 927 l

(l) 3556 l
3000 l + 556 l
3 kl + 556 l
3 kl 556 l

Exercise - 12.5

1. (a) centimetres < decimetres < metres < hectometres
   (b) millilitres < decimetres < litres < kilolitres
   (c) milligrams < centigrams < grams < kilograms

2. (a) 3000 cm + 70 m
   (3000 ÷ 100) m + 70 m
   30 m + 70 m
   100 m

   (b) 78 dm
   78 × 10 cm
   780 cm

   (c) 9700 ml
   9000 ml + 700 ml
   9 l 700 ml

   (d) 95000 ml
   (95000 ÷ 1000) l
   95 l

   (e) 40000 mg
   (40000 ÷ 1000) g
   40 g
   $\frac{40}{1000}$ kg
   0.040 g

   (f) 65 hm
   65 × 100 m
   6500 m
   6500 × 100 cm
   6,50,000 cm

   (g) 8 dal
   8 × 10 l
   80 l

   (h) 4998 cm + 2 cm
   5000 cm
   5000 m
   $\frac{5000}{100}$ m

   (i) 16 g
   16 × 1000 mg
   16000 mg

   (j) 806050 ml
   806000 ml + 50 ml
   806 l + 50 l
   806 l 50 ml

3. (a) 4 km 8 hm
   4 km + 8 hm
   4000 m + 800 m
   4800 m

   (b) 11 km
   11 × 1000 m
   1000 m

   (c) 6 km 320 m
   6 km + 320 m
   6000 m + 320 m
   6320 m

   (d) 5876 cm
   5800 cm + 76 cm
   58 m + 76 cm
   58 m 76 cm

   (e) 7 km 750 m
   7 km + 750 m
   7000 m + 750 m
   7750 m

   (f) 4 km 455 m
   4 km + 455 m
   4000 m + 455 m
   4455 m

   (g) 4 km 455 m
   4 km + 455 m
   4000 m + 455 m
   4455 m

   (h) 2 km 95 m
   2 km + 95 m
   2000 m + 95 m
   2095 m

(i) 20 km 50 m
20 km + 50 m
20000 m + 50 m
20050 m

(j) 13 km 87 m
13 km + 87 m
13000 m + 87 m
13087 m

(k) 19 km 556 m
19 km + 556 m
19000 m + 550 m
19556 m

(l) 9 km 746 m
9 km + 746 m
9000 m + 746 m
9746 m

4. (a) 34 kg
34 × 1000 g
34000 g

(b) 67 hag 5 dag
67 hag + 5 dag
6700 g + 50 g
6750 g

(c) 1300 mg
1000 mg + 300 mg
1 g + 300 mg
1 g 300 mg

(d) 15 kg
15 × 1000 g
15000 g

(e) 10 kg 500 g
10 kg + 500 g
10000 g + 500 g
10500 g

(f) 28 kg 20 g
20 kg + 20 g
20000 g + 20 g
20020 g

(g) 15 kg 1 g
15 kg + 1 g
15000 g + 1 g
15001 g

(h) 30 kg 111 g
30 kg + 111 g
30000 g + 111 g
30111 g

(i) 45 kg 45 g
45 kg + 45 g
45000 g + 45 g
45045 g

(j) 99 kg
99 × 1000 g
99000 g

(k) 52 kg 345 g
52 kg + 345 g
52000 g + 345 g
52345 g

(l) 62 kg 670 g
62 kg + 670 g
62000 g + 670 g
62670 g

5. (a) 7809 ml
7000 ml + 809 ml
7 l 809 ml

(b) 130 dl
(130 ÷ 10) l
13 l

(c) 9008 ml
9000 ml + 8 ml
9 l + 8 ml
9 l 8 ml

(d) 6000 ml
(6000 ÷ 1000) l
6 l

(e) 2775 ml
2000 ml + 775 ml
2 l + 775 ml
2 l 775 ml

(f) 50000 ml
(50000 ÷ 1000) l
50 l

(g) 56765 ml
56000 ml + 765 ml
56 l + 765 ml
56 l 765 ml

(h) 76240 ml
76000 ml + 240 ml
76 l + 240 ml
76 l 240 ml

(i) 9995 ml
9000 ml + 995 ml
9 l + 995 ml
9 l 995 ml

(j) 7055 ml
7000 ml + 55 ml
7 l + 55 ml
7 l 55 ml

(k) 68675 ml
68000 ml + 675 ml
68 l + 675 ml
68 l 675 ml

(l) 77740 ml
77000 ml + 740 ml
77 l + 740 ml
77 l 740 ml

6. (a) 30 mm
(30 ÷ 10) cm
3 cm

(b) 830 dm
830 × 10 cm
8300 cm

(c) 6 km
6 × 1000 m
6000 m
6000 × 100 cm
6,00,000 cm

(d) 12 m
12 × 100 cm
1200 cm

(e) 2 m 10 cm
2 m + 10 cm
200 cm + 10 cm
210 cm

(f) 5 m 25 cm
5 m + 25 cm
500 cm + 25 cm
525 cm

(g) 8 m 22 cm
8 m + 22 cm
800 cm + 22 cm
822 cm

(h) 10 m 65 cm
10 m + 65 cm
100 cm + 8 cm
1065 cm

(i) 22 m 8 cm
22 m + 8 cm
2200 cm + 8 cm
2208 cm

(j) 17 m 8 cm
17 m + 8 cm
1700 cm + 8 cm
1708 cm

(k) 19 m 65 cm
19 m + 65 cm
1900 m + 65 cm
1965 cm

(l) 30 m 76 cm
30 m + 76 cm
3000 cm + 76 cm
3076 cm

7. (a) 1200 g
1000 g + 200 g
1 kg + 200 g
1 kg 200 g

(b) 54600 dg
(54600 ÷ 10) g
5460 g
5000 g + 460 g
5 kg 460 g

(c) 890 kg
(890 ÷ 10) kg
89 kg
89 kg 0 g

(d) 3000 g
(3000 ÷ 1000) kg
3 kg

(e) 1970 g
1000 g + 770 g
1 kg + 970 g
1 kg 970 g

(f) 6500 g
6000 g + 500 g
6 kg + 500 g
6 kg 500 g

(g) 8080 g
8000 g + 80 g
8 kg + 80 g
8 kg 80 g

(h) 13225 g
13000 g + 225 g
13 kg + 225 g
13 kg 225 g

(i) 20005 g
20000 g + 5 g
20 kg + 5 g
20 kg 5 g

(j) 56079 g
56000 g + 79 g
56 kg + 79 g
56 kg 79 g

(k) 32950 g
32000 g + 950 g
32 kg + 950 g
32 kg 950 g

(l) 13000 g
(13000 ÷ 1000) kg
13 kg

8. (a) 13 l
13 × 1000 ml
13000 ml

(b) 78 l
78 × 10 ml
780 ml

(c) 80 dl
80 × 100 ml
8000 ml

(d) 11 l
11 × 1000 ml
11000 ml

(e) 5 l 250 ml
5 l + 250 ml
5000 ml + 250 ml
5250 ml

(f) 21 l 210 ml
21 l + 210 ml
21000 ml + 210 ml
21210 ml

(g) 15 l 45 ml
15 l + 45 ml
15000 ml + 45 ml
15045 ml

(h) 19 l 660 ml
19 l + 660 ml
19000 ml + 660 ml
19660 ml

(i) 9 l 995 ml
9 l + 995 ml
9000 ml + 995 ml
9995 ml

(j) 8 l 88 ml
8 l + 88 ml
8000 ml + 88 ml
8088 ml

(k) 6 l 625 ml
6 l + 625 ml
6000 ml + 625 ml
6625 ml

(l) 17 l 275 ml
17 l + 275 ml
17000 ml 275 ml
17275 ml

Exercise - 12.6

1. (a)

	m	cm
	2	24
+	3	21
	5	45

(b)

	m	cm
	6	14
+	5	20
	11	34

(c)

	m	cm
	6	41
+	9	35
	15	76

(d)

	m	cm
	3	24
+	3	08
	6	32

(e)

	m	mm
	4	226
+	3	128
	7	354

(f)

	m	mm
	6	201
+	2	222
	8	423

(g)

	m	mm
	2	016
+	2	189
	4	205

(h)

	m	mm
	8	869
+	1	218
	10	087

(i)

	m	mm
	7	369
+	6	789
	14	158

2. (a)

	m	cm
	8	85
–	2	25
	6	60

(b)

	m	cm
	7	38
–	2	86
	4	52

(c)

	m	cm
	5	25
–	3	89
	1	36

(d)

	m	cm
	5	95
–	3	20
	2	75

(e)

	m	cm
	9	38
–	1	12
	8	26

(f)

	m	cm
	5	63
–	2	21
	3	42

3. (a)

	g	mg
	5	429
+	2	140
	7	569

(b)

	g	mg
	2	43
+	3	156
	5	199

(c)

	g	mg
	6	30
+	9	198
	15	228

(d)

	g	mg
	6	208
+	3	25
	9	233

(e)

	g	mg
	8	227
+	1	496
	9	723

(f)

	g	mg
	5	223
+	1	611
	6	834

(g)

	g	mg
	4	43
+	9	876
	13	919

(h)

	g	mg
	6	50
+	1	111
	7	161

(i)

	g	mg
	5	943
+	2	258
	8	201

4. (a)

	g	mg
	7	408
–	2	256
	5	152

(b)

	g	mg
	8	349
–	6	429
	1	920

(c)

	g	mg
	5	402
–	2	326
	3	076

(d)

	g	mg
	5	231
–	1	220
	4	011

(e)

	g	mg
	7	246
–	1	240
	6	006

(f)

	g	mg
	5	742
–	1	816
	3	926

(g)

	g	mg
	7	214
–	4	19
	3	195

(h)

	g	mg
	6	692
–	2	463
	4	229

(i)

	g	mg
	7	502
–	1	416
	6	086

5. (a)

	l	m*l*
	1	614
+	2	210
	3	824

(b)

	l	m*l*
	5	38
+	4	219
	9	257

(c)

	l	m*l*
	3	152
+	1	596
	4	748

(d)

	l	m*l*
	2	142
+	3	596
	5	738

(e)

	l	m*l*
	7	691
+	1	249
	8	940

(f)

	l	m*l*
	3	45
+	4	182
	7	227

(g)

	l	m*l*
	4	792
+	1	79
	5	871

(h)

	l	m*l*
	6	348
+	12	143
	18	491

(i)

	l	m*l*
	2	61
+	13	229
	15	290

6. (a)

	l	m*l*
	6	591
–	2	289
	4	302

(b)

	l	m*l*
	6	490
–	1	259
	5	231

(c)

	l	m*l*
	5	282
–	1	811
	3	471

(d)

	l	m*l*
	8	459
–	2	53
	6	406

(e)

	l	m*l*
	16	491
–	3	341
	13	150

(f)

	l	m*l*
	13	790
–	3	36
	10	754

(g)

	l	m*l*
	13	889
−	2	111
	11	778

(h)

	l	m*l*
	12	880
−	1	100
	11	780

(i)

	l	m*l*
	6	162
−	1	825
	4	337

7. (a)

	m	cm
	15	25
+	8	65
	23	90

(b)

	Kg	g
	75	250
+	62	127
	137	377

(c)

	Km	m
	42	175
+	69	675
	111	850

(d)

	l	ml
	8	455
+	16	285
	24	740

(e)

	Kg	g
	54	672
+	67	372
	122	044

(f)

	l	ml
	33	333
+	66	666
	99	999

(g)

	l	ml
	128	256
+	64	128
	192	384

(h)

	Kg	g
	85	67
+	37	27
	122	94

(i)

	l	ml
	2	50
+	13	150
	15	200

8. (a)

	Kg	g
	32	100
−	17	400
	14	700

(b)

	l	ml
	10	250
−	5	650
	4	600

(c)

	Km	m
	55	625
−	34	800
	20	825

(d)

	m	cm
	27	40
−	19	25
	8	15

(e)

	Kg	g
	81	350
−	73	450
	7	900

(f)

	l	ml
	88	672
−	74	900
	13	772

(g)

	m	cm
	92	66
−	88	46
	4	20

(h)

	Km	m
	72	700
−	66	825
	5	875

(i)

	Kg	g
	23	455
−	12	630
	10	825

Exercise - 12.7

1.

Walked to library		456 m	
Walked to shop		34 m	
Walked to grocery shop	+	350 m	46 cm
Total distance walked		840 m	46 m

2.

Father bought apples		2 kg	500 g
Father bought grapes		1 kg	200 g
Father bought Mangoes	+	3 Kg	400 g
Total fruits bought		7 kg	100 g

3.	Milkman bought milk Ist day		35 l 455 ml
	Milkman bought Milk IInd day		19 l 506 ml
	Milkman bought Milk IIIrd day		+ 29 l 700 ml
	Milk sold in 3 days		84 l 661 ml
4.	Total Shampoo		850 ml
	Shampoo used		– 267 ml
	Shampoo left		583 ml
5.	Kanchan had		345 m 66 cm rope
	rope used		– 267 m 15 cm rope
	rope left		78 m 51 cm rope
6.	Weight of watermelon		3 Kg 525 g
	Weight of Papaya		– 2 Kg 750 g
	Watermelon heavier by		0 Kg 775 g
			775 gm
7.	Ram bought rice from Ist shop	=	56 Kg 500 g
	Ram bought rice from IInd shop	=	+ 48 Kg 750 g
	Total rice bought by Ram	=	105 Kg 250 g
8.	Total wire sold		55 m 65 cm
			+ 142 m 75 cm
			198 m 40 cm
	Total wire		600 m 20 cm
	wire sold		– 198 m 40 cm
	wire left		401 m 60 cm
9.	Merchant bought cloth from from Ist Shop		348 m 90 cm
	Merchant bought cloth from IInd Shop		274 m 75 cm
	Merchant bought of cloth from IIIrd Shop		+ 589 m 20 cm
	total length of cloth bought		1212 m 85 cm
10.	Milk to be supplied		500 l 000 ml
	Milk supplied		– 318 l 250 ml
	Milk short		181 l 750 ml
11.	Milk van give milk to Ist booth		256 l 500 ml
	Milk van give milk to IInd booth		178 l 250 ml
	Milk van give milk to IIIrd booth		+ 98 l 750 ml
	Total quantity of milk carried		533 l 500 ml

12.	Total capacity of tank	75 l 000 ml
	Oil filled	− 35 l 250 ml
	More Petrol can be filled	39 l 750 ml
13.	Weight of Ist ornament	14 g 299 mg
	Weight of IInd ornament	15 g 900 mg
	Weight of IIIrd ornament	9 g 700 mg
	Weight of IVth ornament	+ 5 g 900 mg
	Total weight	45 g 799 mg
14.	Total rice	100 kg 000 g
	rice used	− 94 kg 505 g
	rice left	5 kg 495 g
15.	rice bought from Ist Shop	56 kg 500 g
	rice bought from IInd Shop	+ 48 kg 750 g
	Total rice bought	105 kg 250 g
16.	distance of city B to A	586 km 085 m
	distance of city C from A	− 299 km 075 m
	distance of city C from B	287 km 010 m
17.	distance of city A to city B	56 km 750 m
	distance of city B to city C	33 km 225 m
	distance of city C to city D	+ 50 km 175 m
	distance of city A to city D	140 km 150 m
18.	Wire sold to Ist customer	55 m 64 cm
	Wire sold to IInd customer	+ 142 m 75 cm
	Total wire sold	198 m 39 cm
	Total wire	600 m 00 cm
	Wire sold	− 198 m 39 cm
	wire left	401 m 61 cm
19.	Weight of Ist gold piece	5 g 550 mg
	Weight of IInd gold piece	+ 6 g 755 mg
	Total gold	12 g 305 mg
	want gold	15 g 000 mg
	had gold	− 12 g 305 mg
	more gold needed	2 g 695 mg

20.	Mangoes bought	5 kg	500 g
	Leeches bought	3 kg	750 g
	apples bought	+ 10 kg	725 g
	total fruits bought	19 kg	975 g
21.	Cloth used for own shirt	2 m	50 cm
	Cloth used for son's shirt	+ 1 m	75 cm
	Total cloth used	4 m	25 cm
	Total cloth	10 m	00 cm
	Cloth used	– 4 m	25 cm
	Cloth left	5 m	75 cm
22.	Petrol filled on Ist June	30 l	500 ml
	Petrol filled on 4th June	26 l	750 ml
	Petrol filled on 7th June	+ 40 l	250 ml
	total petrol filled	97 l	500 ml
23.	Cloth sold to Ist customer	502 m	50 cm
	Cloth sold to 2nd customer	758 m	00 cm
	Cloth sold to 3rd customer	+ 652 m	25 cm
	total cloth sold	1912 m	75 cm

MCQ

1. c 2. b 3. b 4. c

Mental Maths

1. 10 m 2. 6.5 m 3. 4 m 4. 1.4 m 5. 3 m 6. 2.7 m

Test Execise

1.	a. span, cubit, pace	b. different	c. metre, m
	d. centimetre, cm	e. 100, centimetre	f. 100, 1
	g. kilometre (km)	h. 1000, metre	i. 1000, 1
	j. Scale		
2.	a. Kilogram	b. Kg	c. gram
	d. g	e. 1000, gram	f. 1000, 1
3.	a. litre	b. l	c. millilitre
	d. ml	e. 1000, millilitre	f. 100, 1

13 Money

Exercise - 13.1

1. (a) Forty-three rupees seventy-five paise
   (b) Twenty-seven rupees fifty paise
   (c) Seventy paise

(d) Three hundred fifteen rupees twenty-five paise
(e) Two hundred sixty eight rupees fifty paise
(f) One hundred rupees twenty-five paise

2. (a) ₹ 71.05 (b) ₹ 320.75 (c) ₹ 0.25 or 25 p (d) ₹ 530.65

3. a. ₹ 2 = **4** 50 paise coins.
b. ₹10 = **20** 50 paise coins.
c. ₹ 5 = **25** 20 paise coins.
d. Three 20 rupees notes + five 10 rupee notes = ₹ **110**
e. Two 50 rupees notes + one 10 rupee note = ₹ **110**
f. Two 25 paise coins + two 50 paise coins = ₹ **1.50**
g. ₹ 100 – ₹ 20 = One ₹ **50** note + one ₹ **20** note + one ₹ **10** note.
h. ₹ 10.75 = Two ₹ **5** notes + one **50** paise coin + 1 **25** paise coin.
i. Question is incomplete
j. ₹ 500 = Two **200** rupee notes + **2** ₹ 50 notes.

4. Total saving
6 × 50 p + 4 × 25 p × 10 × 10 p
300 p + 100 p + 100 p
₹3 + ₹1 + ₹1
₹5

5. ₹500 – ₹250
₹250 back
2 ₹100 notes + 1 ₹50 note and 1 ₹50 note

6. He gave
1 ₹10 note, 1 ₹2 coin
one ₹1 coin, one 50 p coin and one 25 p coin

7. 1 ₹50 note
2 ₹20 note
1 ₹10 note

Exercise - 13.2

1. (a) ₹ 18.00 = 18.00 × 100 paise = 1800 paise
(b) ₹ 16.50 = 16.50 × 100 paise = 1650 paise
(c) ₹ 68.25 = 68.25 × 100 paise = 6825 paise
(d) ₹123.00 = 123.00 × 100 paise = 12300 paise
(e) ₹ 256.25 = 256.25 × 100 paise = 25625 paise
(f) ₹ 315.50 = 315.50 × 100 paise = 31550 paise
(g) ₹ 453.08 = 453.08 × 100 paise = 45308 paise
(h) ₹ 811.05 = 811.05 × 100 paise = 81105 paise

2. (a) 825 p = ₹ (825 ÷ 100) = ₹ 8.25
(b) 2500 p = ₹ (2500 ÷ 100) = ₹ 25
(c) 3950 p = ₹ (3950 ÷ 100) = ₹ 39.50
(d) 10250 p = ₹ (10250 ÷ 100) = ₹ 102.50

(e) 81 rupees 50 paise = ₹ 81.50
(f) 95 rupees 55 paise = ₹ 95.55
(g) 7645 p = ₹ (7645 ÷ 100) = ₹ 76.45
(h) 8000 p = ₹ (8000 ÷ 100) = ₹ 80.00

Exercise - 13.3

1. (a)

₹	P
65 .	50
+ 46 .	75
112 .	25

(b)

₹	P
49 .	50
+ 31 .	25
80 .	75

(c)

₹	P
78 .	75
+ 60 .	50
139 .	25

(d)

₹	P
84 .	50
+ 58 .	75
143 .	25

(e)

₹ 735.65
+ ₹ 485.50
1221.15

(f)

₹ 7665. 37
+₹ 459. 84
8125.121

(g)

₹ 29208.37
+ ₹ 5004.79
34213.16

2. (a)

₹ 24.30
+ ₹ 37.50
₹ 61.80

(b)

₹ 28.25
+ ₹ 67.50
₹ 95.75

(c)

₹ 65.50
+ ₹ 87.50
₹ 153.00

(d)

₹ 501.30
+ ₹ 97.50
₹ 598.80

(e)

₹ 253.00
+ ₹ 93.50
₹ 346.50

(f)

₹ 107.30
+ ₹ 197.50
₹ 304.80

3. (a)

₹	P
76 .	70
– 35 .	00
41 .	70

(b)

₹	P
89 .	75
– 63 .	25
26 .	50

(c)

₹	P
80 .	00
– 69 .	25
10 .	75

(d)

₹	P
65 .	00
– 27 .	75
37 .	25

(e)

₹ 323.45
– ₹ 95.80
₹ 227.65

(f)

₹ 595.05
– ₹ 219.15
₹ 375.90

(g)

₹ 750.50
– ₹ 252.65
₹ 497.85

(h)

₹ 712.45
– ₹ 145.76
₹ 566.69

(i)

₹ 7320.02
– ₹ 5864.25
₹ 1455.77

(j)

₹ 9033.24
– ₹ 4285.87
₹ 4747.37

(k)

₹ 8880.96
– ₹ 5356.48
₹ 3524.48

(l)

₹ 7964.36
– ₹ 2794.29
₹ 5170.07

4. (a)

₹ 30.00
– ₹ 16.75
₹ 13.25

(b)

₹ 62.50
– ₹ 48.50
₹ 14.00

(c)

₹ 150.00
– ₹ 130.25
₹ 19.75

(d)

	₹ 320.25
−	₹ 182.55
	₹ 137.70

(e)

	₹1000.00
−	₹ 780.90
	₹ 219.10

(f)

	₹ 900.30
−	₹ 708.50
	₹ 191.80

5. Let x should be added
₹67.75 + x = ₹150.00
x = ₹150.00 − ₹67.75
= ₹82.25

	₹ 150.00
−	₹ 67.75
	₹ 82.25

6. Spend on cake
Spend to toffees
Money spent in mall

	₹ 630.50
+	₹ 58.75
	₹ 689.25

7. Money spend on book
Money spent ice cream
total money spend

	₹ 125.00
+	₹ 35.50
	₹ 160.50

Shikha had
money spend
money left

	₹ 400.00
−	₹ 160.50
	₹ 239.50

8. Cost of mobile
Taxes
Total cost

	₹9500.00
+	₹ 218.50
	₹9718.50

9. Money spent on chocolate
Money spent on Pencil
Money spent on book
Money spend in all

	₹ 6.50
	₹ 2.50
+	₹ 21.25
	₹ 30.25

10. Cost of skirt
Cost of short
Nidhi have to pay

	₹125.50
+	₹ 63.20
	₹188.70

11. Manali have
Charu have more money
Charu have

	₹575.00
+	₹225.50
	₹800.50

12. Shashi has
Shashi spent
Money left

₹ 475.20
– ₹ 117.00
₹ 358.20

13. Akhil give
Akhil to pay

₹ 100.00
– ₹ 55.00
₹ 45.00

14. Cost of book
Cost of shoes
Cost of skirt
Total money spent

₹ 147.00
₹ 225.75
+ ₹ 110.25
₹ 483.50

Neha had
Money spent
Money left

₹ 500.00
– ₹ 483.50
₹ 16.50

15. Money spent on sari
Money spent on cosmetic
Total money spent

₹ 554.95
+ ₹ 175.86
₹ 730.81

Mr Sharma give 2 × 500
Money spent
returned

₹ 1000.00
– ₹ 730.81
₹ 269.19

Exercise - 13.4

1. (a)

₹ 67.25
×8
₹ 538.00

(b)

₹ 59.50
×10
0000
5950×
₹595.00

(c)

₹ 122.50
×9
₹1102.50

(d)

₹ 64.50
×6
₹ 387.00

2. (a)

₹	54.50
	×5
₹	272.20

(b)

₹	89.00
	×8
₹	712.00

(c)

₹	561.50
	×7
₹	3930.50

(d)

₹	35.65
	×12
	7130
	3565×
₹	427.80

(e)

₹	79.35
	×14
	31740
	7935×
₹	1110.90

(f)

₹	116.50
	×15
	58250
	11650×
₹	1747.50

3. (a)

```
      12.90
8) ₹103.20(
   −8
   23
   −16
    72
    −72
     00
```

∴ ₹103.20 ÷ 8
= ₹12.90

(b)

```
      204.53
6) ₹1227.18(
   −12
    027
    −24
      31
      −30
       18
       −18
         0
```

∴ ₹1227.18 ÷ 6
= ₹204.53

(c)

```
      97.47
9) ₹886.23(
   −81
    76
    −72
     42
     −36
      63
      −63
        0
```

∴ ₹886.23 ÷ 9
= ₹98.47

4. (a)

```
      113.55
6) ₹681.30(
   −6
    08
    −6
     21
     −18
      33
      −30
       30
       −30
         0
```

∴ ₹681.30 ÷ 6
= ₹113.55

(b)

```
      205.52
12) ₹2466.24(
   −24
    066
    −60
      62
      −60
       24
       −24
         0
```

∴ ₹2466.24 ÷ 12
= ₹205.52

(c)

```
      58.36
15) ₹875.40(
   −75
    125
    −120
      54
      −45
       90
       −90
         0
```

∴ ₹875.40 ÷ 15
= ₹58.36

(d)

```
      534.49
7) ₹ 3741.43 (
   −35
   ---------
     24
    −21
   ---------
      31
     −28
   ---------
       34
      −28
   ---------
        63
       −63
   ---------
         0
```

∴ ₹3741.43 ÷ 7
= ₹534.49

(e)

```
      235.45
9) ₹ 2119.05 (
   −18
   ---------
     31
    −27
   ---------
      49
     −45
   ---------
       40
      −36
   ---------
        45
       −45
   ---------
         0
```

∴ ₹2119.05 ÷ 9
= ₹235.45

(f)

```
      426.36
13) ₹ 5542.68 (
   −52
   ---------
     34
    −26
   ---------
      82
     −78
   ---------
       46
      −39
   ---------
        78
       −78
   ---------
         0
```

∴ ₹5542.68 ÷ 13
= ₹426.36

5. Cost of 1 Calculator ₹415.50
Cost of 4 Calculator ₹415.50 × 4
= ₹1662.00

```
₹  415.50
       ×4
₹1662.00
```

6. Earn in 1 month ₹11,175.50
Earn in 12 month ₹11,175.50 × 12
= ₹134106.00

```
₹  11175.50
       ×12
  2235100
 1117550×
₹134106.00
```

7. Cost of 4 Packets ₹960.40
Cost of 1 Packet ₹960.40 ÷ 4
= ₹240.10

```
     240.10
4)  960.40 (
   −8
   ---------
    16
   −16
   ---------
     004
      −4
   ---------
      00
```

8. Cost of 6 shirts ₹1260.60
Cost of 1 shirt ₹1260.60 ÷ 6
= ₹210.10

```
     210.10
6)1260.60 (
  −12
  ---------
    06
   −6
  ---------
     006
      −6
  ---------
       0
```

9. Cost of 1 ball ₹26.45
Cost of 15 balls ₹26.45 × 15
= ₹396.75

```
₹  26.45
     ×15
  13225
  2645×
₹396.75
```

10. Cost of 1 Pencil ₹5.50
Cost of 17 Pencils ₹5.50 × 17
= ₹93.50

```
₹   5.50
     ×17
   3850
   550×
₹93.50
```

11. Cost of 1 Pen ₹16.50
Cost of 4 Pen ₹16.50 × 4
₹66.00

```
₹16.50
    ×4
₹66.40
```

given =
Cost =

get back =

```
  ₹100.00
– ₹  66.00
  ₹  34.00
```

12. Total cost ₹50
Cost/notebook ₹5
No of Notebook buy 50 ÷ 5 = 10

13. Cost ticket ₹4.50
Cost of 15 tickets = ₹4.50 × 15
₹67.50

```
₹   4.50
     ×15
   2250
   450×
₹67.50
```

14. Total distribution ₹45.00
Total children 5
Each child get 45 ÷ 5 = ₹9.00

15. Cost of 12 fans ₹8704.20
Cost of 1 fan ₹8704.20 ÷ 12
₹725.35

```
      725.35
12 ) ₹8704.20 (
    –84
     30
    –24
      64
     –60
       42
      –36
        60
       –60
         0
```

16. Cost 1 notebook ₹18.40
Cost 14 notebook ₹18.40 × 14
₹257.60

```
₹  18.40
     ×14
    7360
   1840×
 ₹257.60
```

17. Cost of 13 kg tea = ₹1461.85
Cost of 1 kg tea = ₹1461.85 ÷ 13
₹112.45

```
      112.45
13)  1461.85 (
    –13
      16
     –13
       31
      –26
        58
       –52
         65
        –65
          0
```

18. Cost of 1 notebook ₹5.50
Cost of 6 notebooks ₹5.50 × 6
₹33.00

```
  5.50
    ×6
 33.00
```

Exercise - 13.5

1. **Grocery Shop**

Items	Quantity	Rate	Amount (₹)
Rice	7 Kg	63/kg	₹ 63 × 7 = ₹441.00
Oil	4 l	91.75/l	₹ 91.75 × 4 = ₹367.00
Eggs	10	3.45/egg	₹ 3.45 × 10 = ₹34.50
Wheat	9 kg	91.25/kg	₹ 91.25 × 9 = ₹821.25
		Grand Total	₹ 1663.75

2. **Restaurant**

Items	Quantity	Rate	Amount (₹)
Pizza	16	₹95/Pizza	95 × 16 = ₹1040.00
Cold Drink	7	₹16/Drink	16 × 7 = ₹112.00
Pastries	15	₹10/Piece	10 × 15 = ₹150.00
Burgers	7	₹18/Piece	18 × 7 = ₹126.00
		Grand Total	₹1428.00

3. (a) General store

Items	Quantity	Rate	Amount (₹)
Wheatflour	3 Kg	₹15	3 × 15 = ₹45
		Grand Total	₹45

(b) General store

Items	Quantity	Rate	Amount (₹)
Rice	4 Kg	₹40	4 × 40 = ₹160
Oil	2 l	₹70	2 × 70 = ₹140
Corn Flakes	500 g	₹55.50	= ₹55.50
		Grand Total	₹355.50

(c) General store

Items	Quantity	Rate	Amount (₹)
Butter	1 Kg	₹57/500g	₹104.00
Soap	3 Kg	₹50/500g	₹300.00
Sugar	5 Kg	₹25/kg	₹125.00
		Grand Total	₹529.00

(d) General store

Items	Quantity	Rate	Amount (₹)
Tea	2 Kg	₹8/500 g	₹32.00
Rice	500 g	₹40/kg	₹20.00
Sugar	500 g	₹25/kg	₹12.50
Butter	500 g	₹57/500g	₹57.00
		Grand Total	₹121.50

4. (a)

Items	Cost
1 Pizza	₹65
1 Soft Drink	₹09
Total	₹74

(b)

Items	Price
1 Tomato Soup	₹30
1 Sandwich	₹25
1 buger	₹40
Total	₹95

(c)

Items	Price
2 Burgers	₹80
Soft Drink	₹09
Total	₹89

(i) Pizza ₹65
(ii) Pizza costs less

(d)

Items	Price
1 Pizza	₹65
1 Burger	₹40
1 Chips	₹15
Total	₹120

(i) She had ₹150
(ii) She can buy for ₹(150 – 120) = ₹30
(iii) Tomato soup

(e)

2 Pizzas	₹130
3 Sandwich	₹75
3 Softdrink	₹27
3 Burgers	₹120
Total	₹352

Sumit given	₹ 500.00
Total spent	– ₹ 352.00
Sumit get back	₹ 148.00

Exercise - 13.6

1. (a) ₹123
₹28

₹ 120
+ ₹ 30
₹ 150

(b) ₹18.45
₹77.10

₹ 20.00
+ ₹ 80.00
₹ 100.00

(c) ₹58.20
₹128

₹ 60.00
+ ₹ 130.00
₹ 190.00

(d) ₹61.50
₹89.78

₹ 60.00
+ ₹ 130.00
₹ 190.00

(e) ₹66.20
₹21.50

₹ 70.00
– ₹ 20.00
₹ 50.00

(f) ₹81.50
₹15.80

₹ 80.00
– ₹ 20.00
₹ 60.00

(g) ₹665.00
₹28.50

₹ 670.00
– ₹ 30.00
₹ 640.00

(h) ₹29.80
₹16.50

₹ 30.00
– ₹ 20.00
₹ 10.00

(i) ₹108 → ₹110
₹5 → ₹10
∴ ₹110 ÷ 10 = ₹11

(j) ₹623 → ₹620
₹17 → ₹20
∴ ₹620 ÷ 20 = ₹31

2. a. ₹123.44
₹28.10

₹ 123.00
+ ₹ 28.00
₹ 151.00

b. ₹18.45
₹77.10

₹ 18.00
+ ₹ 77.00
₹ 95.00

c. ₹58.20
₹128.90

₹ 58.00
+ ₹ 129.00
₹ 187.00

d. ₹61.70
₹89.70

₹ 62.00
+ ₹ 90.00
₹152.00

e. ₹1190.20
₹188.50

₹ 1190.20
+ ₹ 189.00
₹ 1001.00

f. ₹378.02
₹344.50

₹378.00
+ ₹345.00
₹723.00

g. ₹940.20
₹768.06

₹ 940.00
+ ₹ 768.00
₹ 1708.00

h. ₹1510.0
₹208.75

₹ 1510.00
– ₹ 209.00
₹ 1301.00

3. (a) Tinku has ₹74
Sonu has ₹17
Total

₹ 77
+ ₹ 20
₹ 90

(b) Rana earned in January ₹5190
Rana earned in February ₹4990
Total earning

₹ 5000
+ ₹ 5000
₹10000

(c) Sunny had ₹578.25
Sunny give ₹195.00
Money left

₹ 600.00
+ ₹ 200.00
₹ 400.00

(d) Cost of 1 Pair Socks ₹42 → ₹40
No of socks
Total cost = 40 × 5
= ₹200

(e) Cost of 1 Jeans ₹345 = ₹350
No of Jeans 5
Sheela Pay 350 × 5 = ₹1750

MCQ

1. (b) (1000 ÷ 2 = 500)

2. (a)

₹ 209.00
– ₹ 29.50
₹ 179.50

3. (a) ₹86.08

14 Time

Exercise - 14.1

1. (a) hours (b) long (c) 60
(d) 60 (e) 2

2. (a) 2:10, (ten minutes past two) (b) 3 : 40, (forty minutes past three)
(c) 9 : 30, (half past nine) (d) 9:00, (nine o'clock)
(e) 8:30, (half past eight) (f) 1:25, (twenty-five minutes past one)
(g) 3:35 (thirty-five minutes past three) (h) 3:45, (forty-five minutes past three)
(i) 8:40, (forty minutes past eight)

3. (a) 05:30 a.m. (b) 11:30 p.m.
(c) 04:15 p.m. (d) 01:35 p.m.

4. (a) 09:40 p.m. (b) 01:00 p.m. (c) 03:20 p.m.
(d) 03:30 p.m. (e) 09:55 am (f) 07:47 pm
(g) 01:50 pm (h) 03:00 pm (i) 02:05 am
(j) 07:00 pm (k) 03:52 am (l) 01:00 am

5. (a) 6:27
27 minutes past 6
or 33 minutes to 7

(b) 8:39
39 minutes past 8
or 21 minutes to 9

(c) 2:40
40 minutes past 2
or 20 minutes to 3

6. (a) 
4:23

(b) 
8:45

(c) 
10:06

(d) 
3:45

(e) 
7:55

(f) 
2:15

Exercise - 14.2

1. (a) 11:33 (b) 02:28 (c) 01:54 (d) 12:18
(e) 05:08 (f) 07:56 (g) 02:38 (h) 07:23

2. (a) 
8:39

(b) 
9:48

(c) 
3:54

(d) 
7:12

(e) 
3:52

(f) 
6:14

(g) 
8:23

(h) 
10:28

3. (a) (iii) (b) (iv) (c) (i) (d) (ii)

Exercise - 14.3

1. (a) 0400 hours
4:00 am

(b) 1530 hours
12:00 + 03:30 PM
03:30 pm

(c) 2345 hours
12:00 hours + 11:45 hours
11:45 pm

(d) 2135 hours
12:00 hours + 09:35
09:35 PM

(d) 2135 hours
1200 hours + 0935
09:35 pm

(e) 1725 hours
1200 hours + 0525 hours
05:25 pm

(f) 0535 hours
05:35 am

(g) 0115 hours
01:15 am

(h) 1348 hours
1200 hours + 0148 hours
01:48 pm

(i) 0815 hours
8:15 am

(j) 0110 hours
01:10 am

(k) 1100 hours
11:00 am

(l) 1400 hours
1200 hours + 0200 hours
02:00 pm

(m) 0830 hours
8:30 am

(n) 0645 hours
06:45 am

(o) 1500 hours
1200 hrs + 300 hrs
03:00 pm

(p) 1700 hours
1200 hrs + 500 hrs
05:00 pm

(q) 0000 hours
12:00 am

(r) 1840 hours
1200 hours + 6:40 hours
06:40 pm

2. (a) 1:45 p.m.
(1200 + 0145) hours
1345 hours

(b) 6:10 a.m.
0610 hours

(c) 12:25 p.m.
1200 hours + 0025 hours
1225 hours

(d) 9:15 p.m.
1200 hours + 0915 hours
2115 hours

(e) 4:30 a.m.
0430 hr

(f) 5:40 p.m.
1200 hours + 0540 hours
1740 hr

(g) 3:10 a.m.
0310 hr

(h) 10:45 p.m.
1200 hours + 1045 hours
2245 hr

(i) 9:30 a.m.
0930 hours

(j) 10:00 a.m.
1000 hours

(k) 12 noon
1200 hours

(l) 4:30 p.m.
1200 hours + 0430 hours
1630 hours

(m) 7:00 p.m.
1200 hours + 0700 hours
1900 hours

(n) 9:15 p.m.
1200 hours + 0915 hours
2115 hours

(o) 10:00 p.m.
1200 hours + 1000 hours
2200 hours

(p) 1:30 p.m.
1200 hours + 0130 hours
1330 hours

(q) 11:15 p.m.
1200 hours + 1115 hours
2315 hours

(r) 12:00 midnight
0000 hours

3. (a) 10:00 pm (b) 0730 hr (c) 09:20 pm

4. (a) 9:30 am + 3 hours
12:30 pm

(b) 8:30 am + 8 hours
4:30 PM

(c) 1800 hours – 1515 hours
0245 hours
24 hours 45 minutes

(d) 2200 hours + 6 hours
(2200 hours + 2 hours) + 4 hours
12 midnight + 4 hours = 4:00 am

(e) 1130 hours + 1½ hours
11:30 am + 1:30 hours
1:00 pm

(f) (1730 hours + 1 hours 45 minutes) reached Hydrabad
(1200 + 0530) hours + 1 hours 45 minutes
5:30 pm + 1 hour 45 minutes
7:15 PM + (reached hydrabad)
take off for Delhi 7:15 pm + 20 min
7:35 pm
Reached Delhi
7:35 PM + 1 hours 30 minutes
9:05 PM

5. (a) 9:40 am

(b) 11:50 – 11:25
= 25 minutes

(c) 9:20 to 11:30
= 2 hours 10 minutes

(d) 1330 hours
or 1:30 PM

(e) 6:30 to 12:45
6 hours 15 minutes

(f) 9:10 to 9:20
10 minutes

(g) 10:50 to 11:15
25 minutes

(h) 6:30 to 10:50
4 hours 20 minutes

(i) 7:40 to 10:50
3 hours 10 minutes

(j) 11:40 to 14:55
3 hours 15 minutes

6. (a) 1800 hrs to 1010 hrs
6 hrs + 1010 hrs
6 hrs + 10 hrs 10 min
16 hrs 10 min

(b) 5:00 am

(c) 1020 to 1025
5 min

(d) 2055 to 0630
(3 hrs 5 min) + 6 hrs 30 min
upto 12 midnight
9 hrs 35 min

(e) 2320 to 2330
10 min

(f) 1025 to 0145
13 hrs 35 minutes
upto midnight + 1 hr 45 minutes

13 hrs 35 min
+ 01 hrs 45 min
15 hrs 20 min

(g) 2335 to 2355
20 minutes

(h) at 1015
10:15 am

(i) 1150 to 1200
10 minutes

(j) 2335
1200 hours + 1135 hours
11:35 pm

Exercise - 14.4

1. (a) 5 hours = 5 × 60 minutes = 300 min

(b) 11 hours = 11 × 60 minutes = 660 minutes

(c) 4½ hours = $\frac{9}{2}$ hours = $\frac{9}{2} \times 60$ minutes

$9 \times 30 = 270$ minutes

(d) 7 hour and $\frac{1}{4}$ of hour

$7\frac{1}{4}$ hours = $\frac{29}{4}$ hours

= $\frac{29}{4} \times 60$ minutes

29×15 minutes

435 minutes

(e) 9 hours 40 minutes
9 hours + 40 minutes
9 × 60 minutes + 40 minutes
(540 + 40) minutes
580 minutes

(f) 8 hours 55 minutes
8 × 60 minutes + 55 minutes
(480 + 55) minutes
535 minutes

2. (a) 400 minutes
(400 ÷ 60) hours
6 hours 40 minutes

```
      6
60 ) 400 (
    –360
      40
```

(b) 1276 minutes
(1276 ÷ 60) hours
21 hours 16 minutes

```
      21
60 ) 1276 (
    –120
       76
      –60
       16
```

(c) 986 minutes
(986 ÷ 60) hours
16 hours 26 minutes

```
      16
60 ) 986 (
     –60
      386
    –360
      26
```

(d) 3485 minutes
(3485 ÷ 60) hours
58 hours 5 minutes

```
      58
60 ) 3485 (
    –300
      485
    –480
       5
```

(e) 891 minutes
(891 ÷60) hours
14 hours 51 minutes

```
      14
60 ) 891 (
     –60
      291
    –240
      51
```

(f) 2007 minute
(2007 ÷ 60) hours
33 hours 27 minutes

```
      33
60 ) 2007 (
    –180
      207
    –180
      27
```

3. (a) 8 min 15 sec
8 min + 15 sec
(8 × 60) sec + 15 sec
480 sec + 15 sec
495 sec

(b) 2 minutes
2 × 60 sec
120 sec

(c) $1\frac{1}{2}$ minutes
$\frac{3}{2}$ minutes
$(\frac{3}{2} \times 60)$ seconds
3 × 30
90 seconds

(d) $5\frac{1}{4}$ minutes
$\frac{21}{4}$ minutes
$(\frac{21}{4} \times 60)$ seconds
21 × 15
215 seconds

(e) 6 min and 20 sec
6 min + 20 sec
(6 × 60 sec) + 20 sec
(360 + 20) sec
380 seconds

(f) 2 hours
(2 × 60) min
(2 × 60 × 60) seconds
7200 sec

4. (a) 2 hours
(245 ÷ 60) minutes
4 minutes 5 seconds

```
      4
60 ) 245 (
    –240
       5
```

(b) 1485 seconds
(1485 ÷ 60) minutes
24 minutes 45 seconds

```
      24
60 ) 1485 (
    –120
      285
    –240
       45
```

(c) 872 seconds
(872 ÷ 60) minutes
14 minutes 32 seconds

```
      14
60 ) 872 (
    –60
     272
    –240
      32
```

(d) 1200 seconds
(1200 ÷ 60) minutes
20 minutes

```
      20
60 ) 1200 (
    –120
       00
```

(e) 7760 seconds
(7760 ÷ 60) minutes
129 minutes 20 seconds

```
      129
60 ) 7760 (
    –60
     176
    –120
      560
     –540
       20
```

(f) 440 seconds
(440 ÷ 60) minutes
7 minutes 20 seconds

```
      7
60 ) 440 (
    –420
      20
```

Exercise - 14.5

1. (a) 12:00 Noon to 3 p.m
3 hours
(b) 1:40 a.m to 8:00 a.m
6 hours and 20 min
(c) 11:45 am to 7:30 pm
7 hours 45 minutes
(d) 8:00 am to 1:00 pm
5 hours

2. (a) 10:40 pm to 11:00 pm
20 minutes
(b) 11:45 pm to 1:30 am
1 hours 45 minutes
1 × 60 minutes + 45 minutes
(60 + 45) minutes
105 minutes
(c) 7:30 am to 8:15 am
45 minutes
(d) 3 o'clock to Quater to 4
3 o'clock to 3:45
45 minutes

3. 7:30 am + 1:40 pm
6 hours 10 minutes

4. 9:30 am to 5:40 pm
8 hours 20 minutes

5. Sleep 10:30 pm to 6:40 am
(1 hr 30 minutes) + (16 hours 40 minutes)
7 hours + (30 + 40) minutes
7 hours + 70 minutes
7 hours + 1 hours 10 minutes
8 hours 10 minutes

6. 8:10 am + 7 hours
Reach Chandigarh at 3:10 pm

Exercise - 14.6

1. (a)

hr	min
	60
2	35
+ 1	25
4	00

(b)

hr	min
1	74
4	18
+ 7	56
12	14

(c)

hr	min
1	66
9	38
+ 6	28
16	6

(d)

hr	min
	56
7	32
+ 6	24
13	56

(e)

hr	min
1	65
10	50
+ 6	15
17	5

(f)

hr	min
1	68
8	34
+12	34
21	8

2. (a)

hr	min
4	66
~~5~~	6
− 1	34
3	32

(b)

hr	min
5	93
~~6~~	33
− 3	54
2	39

(c)

hr	min
17	82
~~18~~	~~22~~
−14	45
3	37

(d)

hr	min
11	75
~~12~~	~~15~~
− 6	55
5	20

(e)

hr	min
13	78
~~14~~	~~18~~
+ 9	32
4	36

(f)

hr	min
18	83
~~19~~	~~23~~
+15	35
3	48

Exercise - 14.7

1. Rained 1st day
   Rained 2nd day
   Rained 3rd day
   Rained in all.

hr	min
1	120
2	50
3	30
+ 2	40
9	00

2. Total duration of movie
   Ist half duration
   IInd half duration

hr	min
1	90
2	30
−	55
1	35

3. Time at which train arrive
   5:20 PM + 3hr 45 minutes
   9:05 PM

4. Magic show time
   7:00 PM to 8:40 PM
   1 hr 40 minutes

5. Journey by Bus is longer by 2 hr 45 minutes

	hr	min
	8	90
	9	30
+	6	45
	2	45

6. Journey time 9:15 am to 12:25 pm
time taken 3 hrs 10 minutes

7. Reached aunt house at 10:30 am + 50 minutes
= 11:20 am

8. To reach office 8:00 am
time taken to reach 40 minute
Mr Sharma should start at 7:20 am

9. Tuition time 5:20 pm to 6:50 pm
during is 1 hrs 30 minutes

10. Coolar on from 9:40 pm to 6:10 am
duration = 8 hrs 30 minutes

11. train timming 17:05 to 18:00
= 55 minutes

12. Stopage timing 22:50 to 23:10
= 20 minutes

13. Travel by train
Travel by bus
Walked
Total travel time
Total travel time 5 hr 40 min
Reach home at 7:00 am + 5 hr 40 min
12:40 pm

	hr	min
	1	100
	3	20
	1	35
+		45
	5	40

14. Time Intervel
2205 hrs to 0105 hrs
1 hr 55 min + 1 hr 05 min
till (midnight)
3 hours

	hr	min
	1	60
	1	55
+	1	05
	3	00

15. Match Played from
1615 hrs to 1810 hrs
45 min (till 1700 hours) + 1 hr 10 min
Match lost for = 1 hr 55 minutes

16. Film show ended at
8:30 pm + 2 hr 20 min
= 10:40 PM

17. Reaches at 7:45 am + 1 hr 10 min
= 8:55 am

18.

Learn Hindi
Learn Mathematics
She learn for 3 hr 55 minutes

hr	min
1	40
+ 2	15
3	55

19. She shopped from 10:10 am to 11:55 am
= 1 hr 45 minutes

20. Time on Mr Raj's Watch
8:15 am + 10 minutes
= 8:25 am

Exercise - 14.8

1. (a) 19<u>52</u> is leap year : last two digits divisible by 4
(b) 20<u>05</u> is not a leap year : ∵ last two digit not divisible by 4
(c) 20<u>10</u> is not a leap year : ∵ last two digits not divisible by 4
(d) 20<u>14</u> is not a leap year : ∵ last two digits not divisible by 4
(e) 19<u>98</u> is not a leap year : ∵ last two digits not divisible by 4
(f) 21<u>20</u> is a leap year : ∵ last two digits not divisible by 4
(g) 20<u>12</u> is a leap year : ∵ last two digits divisible by 4
(h) 19<u>76</u> is a leap year : ∵ last two digits divisible by 4

2. (a) 6 months = 6 × 30 = 180 days
(b) February + March + October
25 + 31 + 31 = 90 days
(c) 7 weeks + 4 days
(7 × 7 + 4) days
(49 + 4) days
53 days
(d) June + 2 weeks + 20 days
30 days + (2 × 7) days + 20 days
(30 + 14 + 20) days
64 days

3. (a) 2 days
2 × 24 hours
48 hours
(b) half day
12 hours
(c) $3\frac{1}{2}$ days
$\frac{7}{3}$ days
$\frac{7}{2} \times 24$ hours
7 × 12 hours
84 hours
(d) 1 week + Quarter day
7 days + $\frac{1}{4}$ day
$7\frac{1}{4}$ days
$\frac{29}{4}$ days
$\frac{29}{4} \times 24$ hours
29 × 6 hours
174 hours

4. (a) 9th January (b) 13th February
(c) 21th April (d) 24th May
(e) 8th July (f) 15th August
(g) 14th November (h) 13th December

5. (a) 01.02.1990 (b) 02.10.1995
(c) 04.08.1990 (d) 21.06.1997

6. (a) Monday (b) Sunday
(c) Monday (d) Wednesday
(e) Tuesday (f) Thursday

7. (a) 10th May to 11 June
May = 22 days
June = + 11 days
Total 33 days

(b) 9th January + 20 days
John left office on 28 January

(c)

Days July	=	20
Days August	=	31
Days September	=	+ 16
She Away from home for	=	68 days

(d)

Days March	=	23
Days April	=	+ 4
Examination Continue for	=	27 days

(e) Leave for 42 days
(42 ÷ 7) week
6 weeks

(f) Training last for 12 days
(12 × 24) hour
= 288 hours

(g) 3rd July to 2 July 2011 = 9 years
3 July 2011 to 30 March 2012 = 8 months
∵ total 9 years 8 months

(h) 9th January + 20 days
John left on 28th January

MCQ

1. (c) 19<u>08</u> is leap years become last two digits divisible by 4.
2. (c) 13 weeks 4 days

```
      13
7) 95 (
   −7
   25
  −21
    4
```

3. (c) 5 hrs 55 minutes
5 × 60 + 55 minutes
(300 + 55) minutes
355 minutes

hr	min
3	20
+ 2	35
5	55

Text Exercise

1. (a) 7:02 (b) 8:24 (c) 9:37
2. (a) 4:30 = 4:30 PM (b) 10:05 = 10:05 am
   (c) 1:20 PM (d) 6:40 AM
3. (a) 10:10 am + 2 hrs
   12:10 pm
   (b) 3 hrs + 7:14 pm
   10:14 pm
   (c) 1:30 am – 2 hours
   11:30 pm
   (d) 12:15 pm – 1 hr
   11:15 am
4. (a) 6:10 am to 10:20 am
   10 hour 10 minutes
   (b) 4:15 to 10:10 pm
   5 hr 55 minutes
   (c) 9:40 am to 2:10 pm
   4 hr 30 minutes
   (d) 10:45 to 12:20 am
   1 hr 30 minutes
5. (a)

March	=	15 days
April	=	30 days
May	=	10 days
Total	=	55 days

(b)

May	=	9 days
September	=	30 days
October	=	8 days
Total	=	41 days

(c)

August	=	10 days
September	=	30 days
October	=	8 days
Total	=	48 days

(d)

September	=	7 days
October	=	31 days
November	=	20 days
Total	=	58 days

6. (a) Neelima reached school at 7:45 am + 35 minutes = 8:20 am
   (b) 20 October + 25 days = 13 November
   (c) last working day 25 June – 45 days = 11 May

15 Geometry

Exercise - 15.1

1. (a) Open (b) Closed
   (c) Closed (d) Open
2.

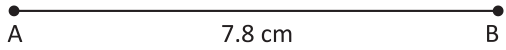
Shape	Number of faces	Number of edges	Number of vertices
Cube	6	**12**	**8**
Cuboid	**6**	12	**8**

Cone	**2**	**1**	**1**
Sphere	**1**	**0**	0
Cylinder	3	**2**	**0**

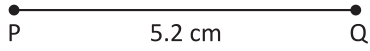
3. (a) no (b) 3 (c) 2

Exercise - 15.2

1. (a) ray $\overrightarrow{PQ}$ (b) line $\overleftrightarrow{AB}$ (c) line segment $\overline{AB}$
2. (a) 3.5 cm (b) 7.7 cm
3. (a)

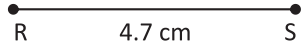


(b)



(c) Same as a

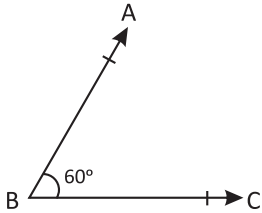
(d)

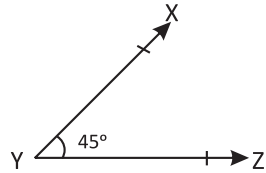


4. 6 rays
$\overrightarrow{RP}, \overrightarrow{SP}, \overrightarrow{TP}, \overrightarrow{RQ}, \overrightarrow{SQ}, \overrightarrow{TQ}$
5. (a) 4 line segements
$\overline{AB}, \overline{BC}, \overline{CD}, \overline{DA}$
(b) 3 line segments
$\overline{PQ}, \overline{PR}, \overline{QR}$
(c) 7 line segments
$\overline{LM}, \overline{MN}, \overline{NO}, \overline{OP}, \overline{PQ}, \overline{QR}, \overline{RL}$

Exercise - 15.3

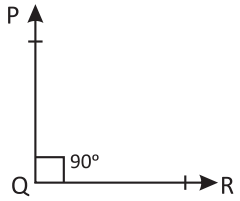
1. (a) $\angle ABC$ (b) $\angle PNM$ (c) $\angle ZYX$
2. (a) arms BC, BA, vertex B (b) arms MN, ML, Vertex M
(c) arms yx, yz, vertex y
3. (a) Points P, Z exterior of $\angle ABC$
(b) Points X, Y interior of $\angle ABC$
4. (a) (b)





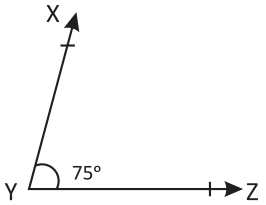
$\angle ABC = 60°$ $\angle XYZ = 45°$

(c)



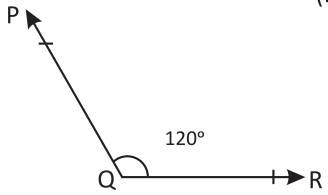
$\angle PQR = 90°$

(d)



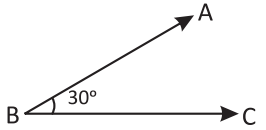
$\angle XYZ = 75°$

(e)



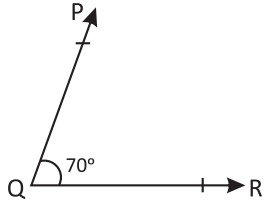
$\angle PQR = 120°$

(f)



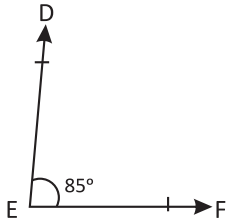
$\angle ABC = 30°$

(g)



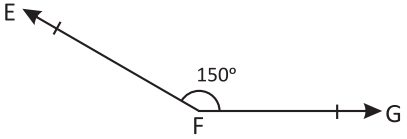
$\angle PQR = 70°$

(h)



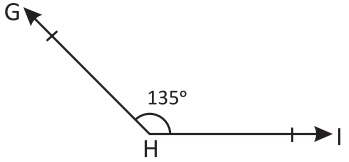
$\angle DEF = 85°$

(i)



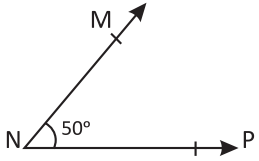
$\angle EFG = 150°$

(j)

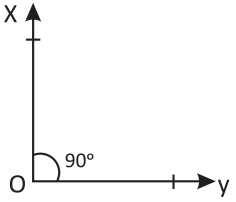


$\angle GHI = 135°$

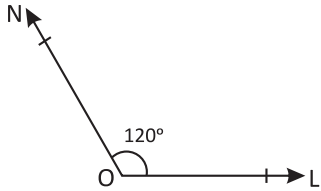
5.



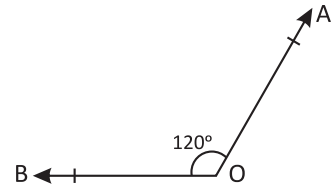
$\angle MNP = 50°$



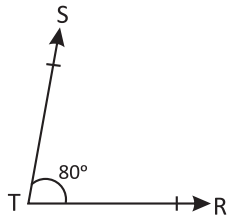
$\angle XOY = 90°$



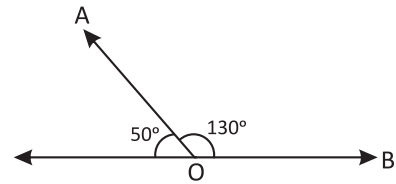
$\angle NOL = 120°$



$\angle AOB = 120°$

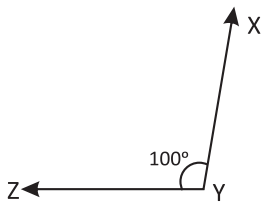


$\angle STR = 80°$

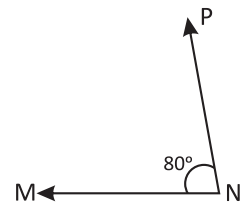


$\angle AOB = 130°$

$\angle AOC = 50°$



$\angle XYZ = 100°$



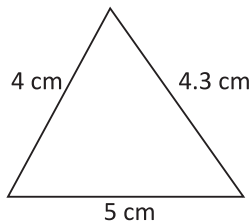
$\angle PNM = 80°$

Exercise - 15.4

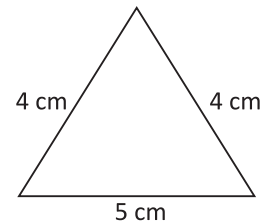
1. (a) ✗ (b) ✓ (c) ✗
   (d) ✓ (e) ✓ (f) ✗
   (g) ✗ (h) ✓
2. (a) False (b) True (c) True

Exercise - 15.5

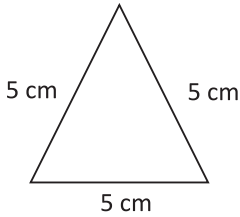
1. (a) Sides AB, BC, CA
   Vertics A, B, C
   angles $\angle ABC$, $\angle BAC$, $\angle ACB$
2. (a) equilateral triangle (b) scalene triangle (c) isosceles triangle
3. (a)



Scalene triangle



isosceles triangle



equilateral triangle

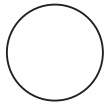
4. (a) AB = 2 cm, BC = 4.6 cm, AC = 3.5 cm
   (b) AB = 2 cm, BC = 2.4 cm, AC = 2.1 cm
   (c) AB = 1.7 cm, BC = 2.4 cm, AC = 3 cm

5. (a) Acute angle (b) Equilateral (c) Isosceles
   (d) Equal (e) Obtuse angled (f) all
   (g) 60° (h) equal (i) 3, 3, 3
   (j) One, right angled

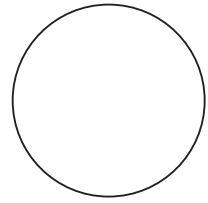
6. (a) Right angled (b) Scalene (c) Obtuse angled
   (d) Isosceles (e) Isoceles (f) Equilateral
   (g) Acute angled (h) Isosceles

Exercise - 15.6

1.



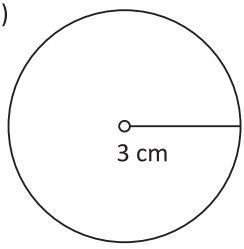
Circle Using Coin



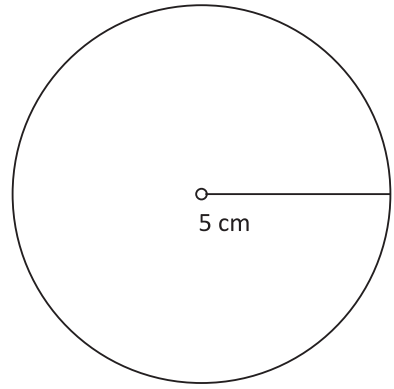
Circle using bangle

2. (a) Centre O (b) Radii OP, OQ, OX
   (c) Chord ML (d) diameter PQ

3. (a)



Radius 3 cm



Radius 5 cm

Exercise - 15.7

1. (a) Diameter = $2 \times$ radius
2×28
56 cm

(b) Diameter = $2 \times$ radius
2×12
24 cm

(c) diameter = $2 \times$ radius
2×19
38 cm

2. (a) radius $= \dfrac{\text{diameter}}{2} = \dfrac{40}{2} = 20$ cm

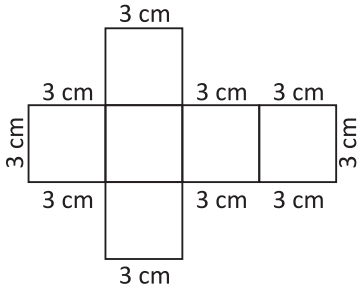
(b) radius $= \dfrac{\text{diameter}}{2} = \dfrac{58}{2} = 29$ cm

(c) radius $= \dfrac{\text{diameter}}{2} = \dfrac{80}{2} = 40$ cm

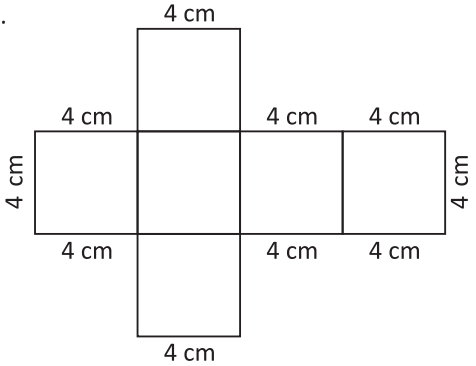
3. (a) girl (b) T-shirt (c) House
(d) Rabbit (e) Rocket

Exercise - 15.8

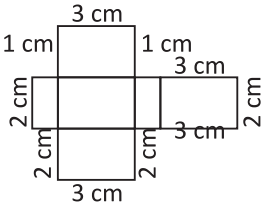
1.



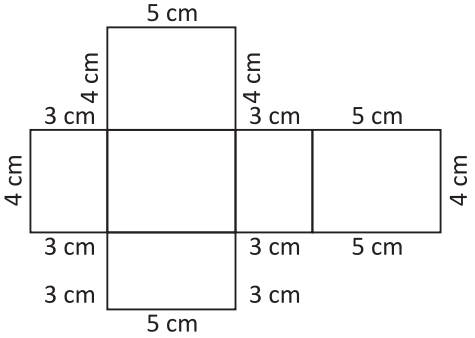
2.



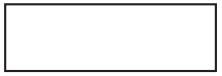
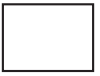
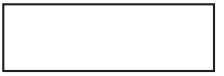
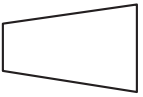
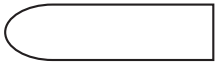
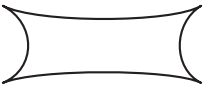
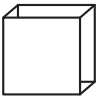
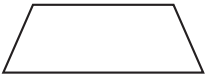
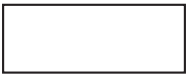
3.



4.



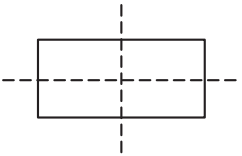
Exercise - 15.9

	Frant View	Side View	Top View
1.			
2.			
3.			
4.			

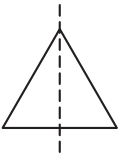
Exercise - 15.10

1. (a) Yes (b) No (c) No (d) Yes
   (e) Yes (f) Yes (g) Yes (h) Yes
   (i) No (J) No (K) No (L) No

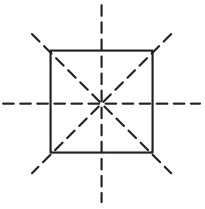
2. (a)



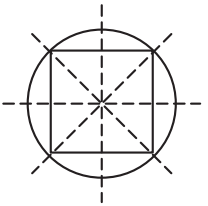
(b)



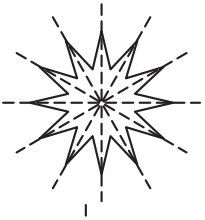
(c)



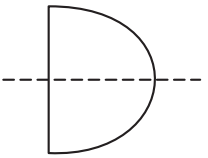
(d)



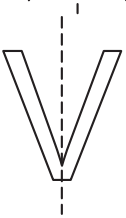
(e)



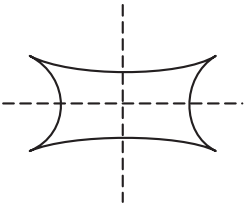
(f)



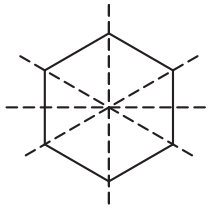
(g)



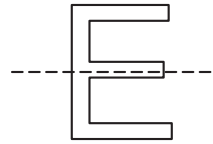
(h)



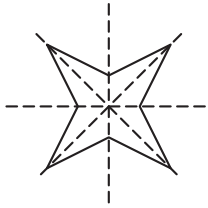
(i)



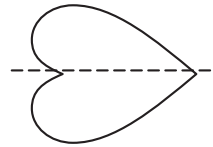
(j)



(k)



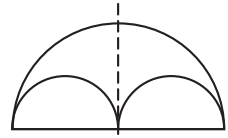
(l)



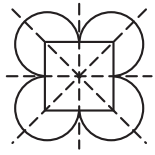
3. (a) 3 (b) 4 (c) 1 (d) 1
(e) 2 (f) 2 (g) 0 (h) 1

4. (a)

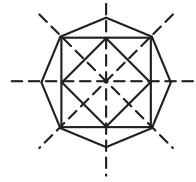
(b)



(c)



(d)

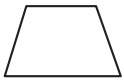


5. A One line of symmetry
B One line of symmetry
C One line of symmetry
D One line of symmetry
E One line of symmetry
H 2 line of symmetry
I 1 line of symmetry
K 1 line of symmetry
M 1 line of symmetry
O Infinite line of symmetry
T One line of symmetry
U One line of symmetry
V One line of symmetry
W One line of symmetry
X 2 line of symmetry
Y 1 line of symmetry
Z No line of symmetry

MCQ

1. b 2. c 3. a 4. c

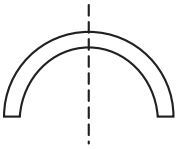
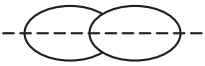
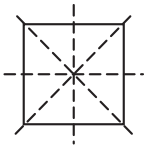
Test Exercise

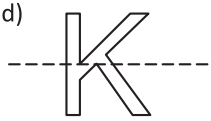
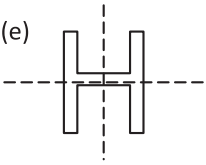
1. a, b, c 2. c, e 3.  4. NO

5.

Centre	O
radii	OA, OB, OP
diameter	AB
Chord	CD

6. (a) Chord (b) Chord (c) half
   (d) circum ference (e) centre

7. (a)  (b)  (c) 

   (d)  (e) 

16 Perimeter and Area

Exercise - 16.1

1. (a) Perimeter = 5 + 5 + 5 = 15 cm
   (b) Perimeter = 6 + 4 + 4 + 6 + 6 = 26 cm
   (c) Perimeter = 8 + 4 + 4 + 8 + 4 + 4 = 32 cm
   (d) Perimeter = 5 + 5 + 2 + 2 = 14 cm
   (e) Perimeter = 3 + 5 + 7 = 15 cm
   (f) Perimeter = 6 + 3 + 5 + 5 = 19 cm
   (g) Perimeter = 2 + 3 + 4 + 5 = 14 cm
   (h) Perimeter = 2 + 2 + 3 + 2 + 3 + 4 + 8 + 4 = 28 cm
   (i) Perimeter = 1 + 2 + 2 + 2 + 1 + 6 + 1 + 2 + 2 + 2 + 1 + 6 = 28 cm

2. (a) Perimeter of Rectangle = 2 (l + b)
   = 2 (4 + 3)
   2 (7)
   = 14 cm
   (c) Perimeter of Rectangle = 2 (l + b)
   2 (15 + 10)

$= 2 \times 25$

$= 50$

(e) Perimeter of Rectangle $= 2(l + b)$

$2(5 + 2)$

$= 2 \times 7$

$= 14$ cm

(b) Perimeter of Rectangle $= 2(l + b)$

$2(10 + 5)$

$= 2 \times 15$

$= 30$ cm

(d) Perimeter of Rectangle $= 2(l + b)$

$2(7 + 5)$

$= 2 \times 12$

$= 24$ km

(f) Perimeter of Rectangle $= 2(l + b)$

$2(10 + 6)$

$= 2 \times 16$

$= 32$ cm

(g) Perimeter of Rectangle $= 2(l + b)$

$2(4.2 + 7.3)$

$= 2(11.5)$

$= 23$ m

(h) Perimeter of Rectangle $= 1(l + b)$

$2(5.7 + 2.3)$

$= 2(8.0)$

$= 16$ m

3. (a) Perimeter $= 2(l + b)$

$= 2(11 + 9) \quad = 2 \times 20 \quad = 40$ cm

(b) Perimeter $= 2(l + b)$

$= 2(15 + 14) \quad = 2 \times 29 \quad = 58$ cm

(c) Perimeter $= 2(l + b)$

$52 = 2(15 + b)$

$\frac{52}{2} = 15 + b$

$26 = 15 + b$

$b = 26 - 15 \quad b = 11$ cm

(d) Perimeter $= 2(l + b)$

$58 = 2(l + 12)$

$\frac{58}{2} = l + 12$

$29 = l + 12$

$l = 29 - 12$

$= 17$ cm

(e) Perimeter = $2(l + b)$

$64 = 2(22 + b)$

$\frac{64}{2} = 22 + b$

$32 - 22 = b$

$10\text{ cm} = b$

(f) Perimeter = $2(l + b)$

$90 = 2(l + 20)$

$\frac{90}{2} = l + 20$

$45 - 20 = l$

$25\text{ cm} = l$

(g) Perimeter = $2(l + b)$

$96 = 2(l + 20)$

$\frac{96}{2} = (20 + b)$

$48 = 20 + b$

$28\text{ cm} = b$

4. (a) Perimeter of square = $4 \times$ side

$4 \times 4 = 16\text{ cm}$

(b) Perimeter of square = $4 \times$ side

$4 \times 10 = 40\text{ cm}$

(c) Perimeter of square = $4 \times$ side

$4 \times 20 = 80\text{ cm}$

(d) Perimeter of square = $4 \times$ side

$4 \times 5 = 20\text{ km}$

(e) Perimeter of square = $4 \times$ side

$4 \times 7 = 28\text{ cm}$

(g) Perimeter of square = $4 \times$ side

$4 \times 10 = 40\text{ cm}$

(h) Perimeter of square = $4 \times$ side

4×15.5

62 cm

5. (a) Perimeter of square = $4 \times$ side

$100 = 4$ side

$\frac{100}{4} =$ side

$25\text{ cm} =$ side

(b) Perimeter of square = $4 \times$ side

$64 = 4 \times$ side

$\frac{64}{4} =$ side

$16\text{ cm} =$ side

	(c)	Perimeter of square	= $4 \times$ side
		128	= $4 \times$ side
		$128 \div 4$	= side
		32 m	= side
	(d)	Perimeter of Square	= $4 \times$ side
		140	= $4 \times$ side
		$140 \div 4$	= side
		35 m	= side
6.		Perimeter of Square	= $4\,(l + b)$
			= $2\,(18 + 6)$
			= 2×24
			= 48 cm
7.		Perimeter of Square	= $4 \times$ side
		40	= $4 \times$ side
		$40 \div 4$	= side
		10 cm	= side
8.		Perimeter of Triangle	= $15 + 18 + 17$
			= 50 inches
9.		Perimeter of Pentagon	= $5 \times$ side
		100 m	= $5 \times$ side
		$100 \div 5$	= side
		20 m	= side
10.		lace needed	= $2\,(l + b)$
			$2\,(3 + 2)$
			$2 \times 5 = 10$ m
11.		Wire needed	= $2\,(l + b)$
			$2\,(96 + 64)$
			$2\,(160)$
			320 m
		Cost of Fence	= 4×320
			= ₹1280
12.		Distance covered in 1 round	= $4 \times$ side
			4×7
			28 m
		Distance covered in 4 rounds	= 4×28
			112 m
13.		Perimeter of park	= $7 + 2 + 9 = 18$ m
14.		Perimeter of table top	= $2\,(l + b)$
			$2\,(45 + 30)$
			$2\,(75)$
			150 cm

15. Perimeter = 2 (l + b)
120 = 2 (35 + b)
120 ÷ 2 = 35 + b
60 = 35 + B
60 – 35 = b
25 = breadth of screen

16. Perimeter of square carpet = 4 × side
64 = 4 × side
64 ÷ 4 = side
16 cm = side

17. Perimeter of triangle = a + b + c
25 = 12 + 8 + c
25 = 20 + c
25 – 205 cm = third side

18. Distance covered in 1 rounds = 4 × side
= 4 × 6
= 24 m
Distance covered in 3 round = 3 × 24
= 72 m

19. Perimeter of triangle = a + b + c
= 16 + 16 + 20
= 32 + 20
= 52 cm

20. Fence required = 4 × side
= 4 × 210
= 840 m
Cost of Fence = ₹16.50 × 840
= ₹13860

```
   16.50
  × 840
  ------
    0000
   6600×
  13200××
 13860.00
```

21. Distance covered in 1 round = 2 (l + b)
= 2 (100 + 50)
= 2 × 150
= 300 m
Distance covered in 3 rounds = 3 × 300
= 900 m

22. Wooden stick required = 2 (l + b)
2 (40 + 25)
2 (65)
130 cm

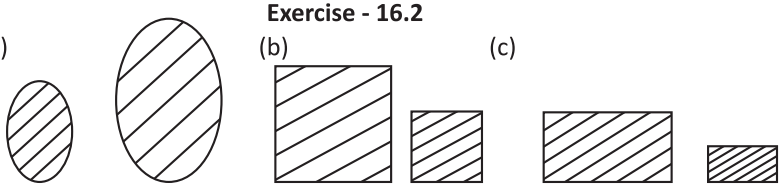
23. tape used = 2 (l + b)
= 2 (5 m 20 cm + 3 m 20 cm)

		=	2 (8m 40 cm)
		=	16 m 80 cm
		=	16.80 m
	Cost of tape	=	₹2 × 16.80
		=	₹33.60
24.	length of boundry	=	30 × 3
		=	90 m
		=	9000 cm
	distance covered in 1 step	=	60 cm
	she take	=	(9000 ÷ 60) steps
		=	150 steps
25.	Fence required	=	(175 + 150 + 215) m
		=	550 m
	Cost of fencing	=	₹15 × 550
		=	₹8250
26.	Perimeter of field	=	2 (l + b)
		=	2 (50 +30)
		=	2 (80)
		=	160 m
	distance covered	=	480 m
	Number of rounds	=	$\frac{480}{160}$
		=	3 rounds

27.	Distance covered by Alice in one round	=	4 × side
		=	4 × 110 = 440
	Distance covered by Alice in 3 rounds	=	3 × 440 = 1320 m
	Distance covered by cynthia in one round	=	2 (l + b)
		=	2 (200)
		=	400 m
	Distance covered by cynthia in 3 rounds	=	3 × 400
		=	1200
	Alice covered more distance by (1320 – 120)	=	120 m

Exercise - 16.2

1. (a) (b) (c)



2. (a) 5 cm² (b) 12 cm² (c) 18 cm² (d) 9 cm² (e) 8 cm²
   (f) 13 cm² (g) 13 cm² (h) 5 cm² (i) 6 cm²
3. (b) 12 cm² (c) 5 cm² (d) 11 cm² (e) 14 cm²
   (f) 5 cm² (g) 9 cm² (h) 13 cm² (i) 11 cm²

Exercise - 16.3

1. (a) Area = 6×6 = $36\ cm^2$
   (b) Area = 6×4 = $24\ cm^2$
   (c) Area = 10×4 = $40\ cm^2$

2. (a) Area of Square = Side × Side
   7×7
   $49\ cm^2$
   (b) Area of Square = Side × Side
   11×11
   $121\ m^2$
   (c) Area of Square = Side × Side
   20×20
   $400\ m^2$
   (d) Area of Square = Side × Side
   16×16
   $256\ m^2$

3. (a) Area of Rectangle = $l \times b$
   = 6×2 = $12\ cm^2$
   (b) Area of Rectangle = $l \times b$ = 15×8
   = $120\ cm^2$
   (c) Area of Rectanlge = $l \times b$ = 16×12
   = $192\ m^2$
   (d) Area of Rectangle = $l \times b$
   = 9×10
   = $90\ m^2$

4. Area of Rectangular land = $l \times b$
   = 12×24
   = $288\ m^2$

5. Area of floor = 8×8
   = $64\ m^2$

6. Area of room = $l \times b$
   8×6
   = $48\ m^2$
   Cost of tiling = 15×48
   = ₹720

MCQ

1. c ($6 + 5 + 7 = 18$ cm)
2. (b) ($15 \times 15 = 225\ m^2$)
3. (a) (Area = $l \times b \Rightarrow 8 = 4 \times b = b = 2$ m)
4. (c) breadth
5. (c) (Pr = $4 \times$ side = $4 \times 1.5 = 6$ cm)
6. (a) $2(l + b) = 2(5 + 3) = 160$ cm
7. (b) (fence = $4 \times 25 = 100$ m)
8. (a) (Cost = $4 \times 50 \times 5$ = ₹1000)

17 Data Handling

Exercise - 17.1

1. (a) Maths (b) 30 students
   (c) 35 (d) 130 (35 + 50 + 30 + 15)

2.

Programme	Number of children
Cartoons	☺ ☺ ☺ ☺ ☺ ☺ ☺ ☺ ☺ ☺
Sports	☺ ☺ ☺ ☺ ☺ ☺ ☺ ☺ ☺
News	☺ ☺ ☺ ☺ ☺
Serials	☺ ☺ ☺ ☺ ☺ ☺
Movies	☺ ☺ ☺ ☺ ☺ ☺ ☺ ☺

here 1 ☺ = 5 students

   (a) Cartoons (b) Sports (c) 25 Students

3. (a) May (b) 40 cars (90 – 50 = 40)
   (c) 40 cars (d) 290 cars (40 + 30 + 60 + 50 + 20 + 90)

4. (a) 7 (b) Monday, 10 (c) Wednesday
   (d) 37 (10 + 6 + 2 + 4 + 8 + 7) (e) 2 (8 – 6 = 2)

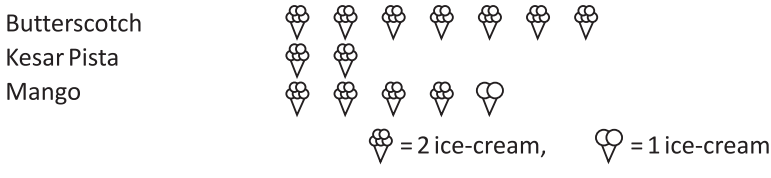
5.

Ice cream flavour	Tally Marks	Number
Strawberry	卌 II	7
Vanilla	卌	5
Chocolate	卌 卌 卌 I	16
Butterscotch	卌 卌 IIII	14
Kesar pista	卌 IIII	4
Mango	卌 IIII	9
	Total	55

Pictograph

Flavour of Ice-cream liked by Children

Ice cream flavour	**Number**
Strawberry	🍦 🍦 🍦 🍨
Vanila	🍦 🍦 🍨
Chocolate	🍦 🍦 🍦 🍦 🍦 🍦 🍦 🍦



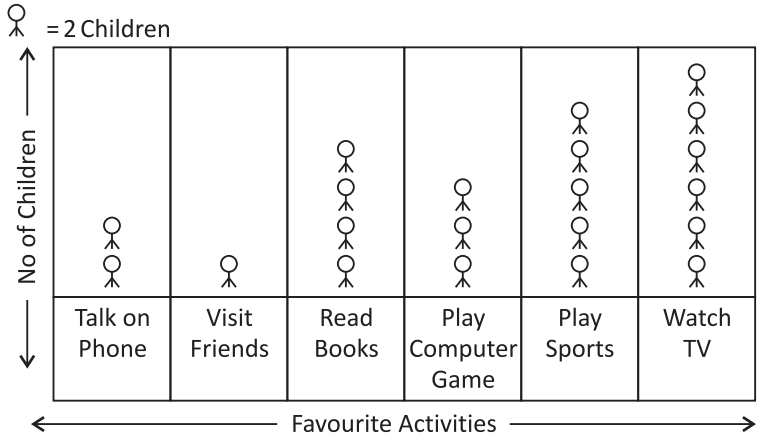
(a) Chocolate (b) 9 (c) Kesar Pista (d) Butter Scotch

6. (a) Favourite after school activities of children

Tally Mark

Favourite Activities		Number
Talk on Phone	IIII	4
Visit Friends	II	2
Read Books	~~IIII~~ III	8
Play Computer Game	~~IIII~~ I	6
Play Sports	~~IIII~~ ~~IIII~~	10
Watch T.V	~~IIII~~ ~~IIII~~ II	12

Vertical Pictograph

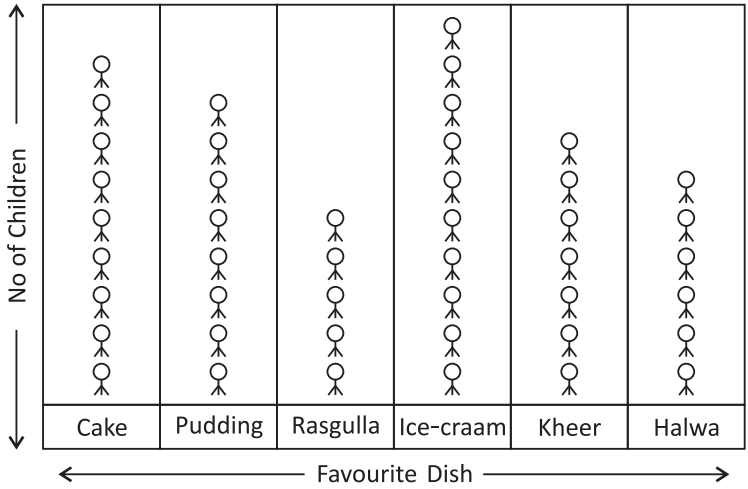


b. Tally Mark

Favourite Sweet Dish		Number of Children
Cake	~~IIII~~ IIII	9
Pudding	~~IIII~~ IIII	8
Rasgulla	~~IIII~~	5
Ice-Cream	~~IIII~~ ~~IIII~~	10
Kheer	~~IIII~~ II	7
Halwa	~~IIII~~ I	6

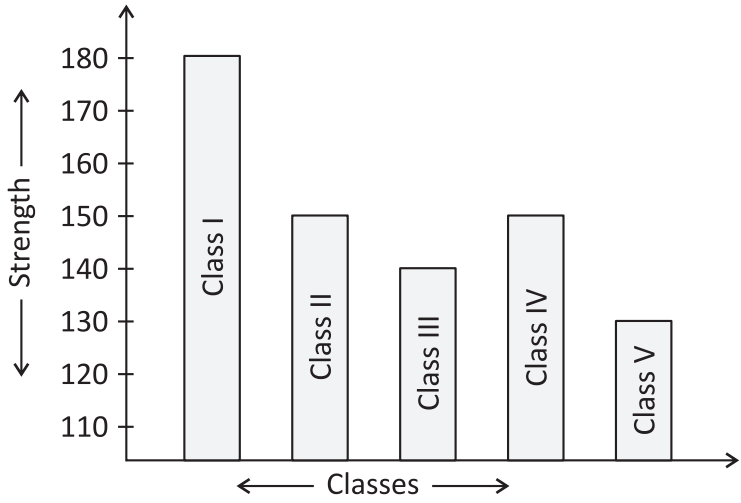
Vertical Pictograph

= 1 Child

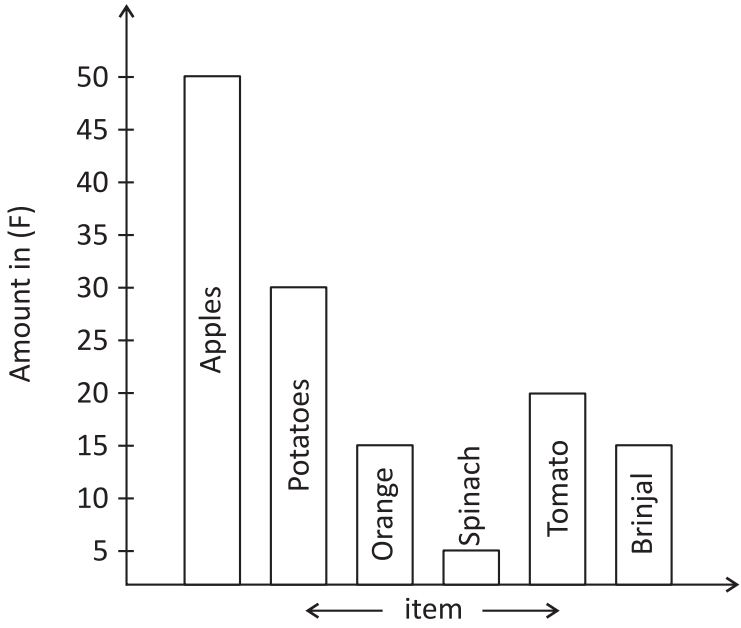


Exercise - 17.2

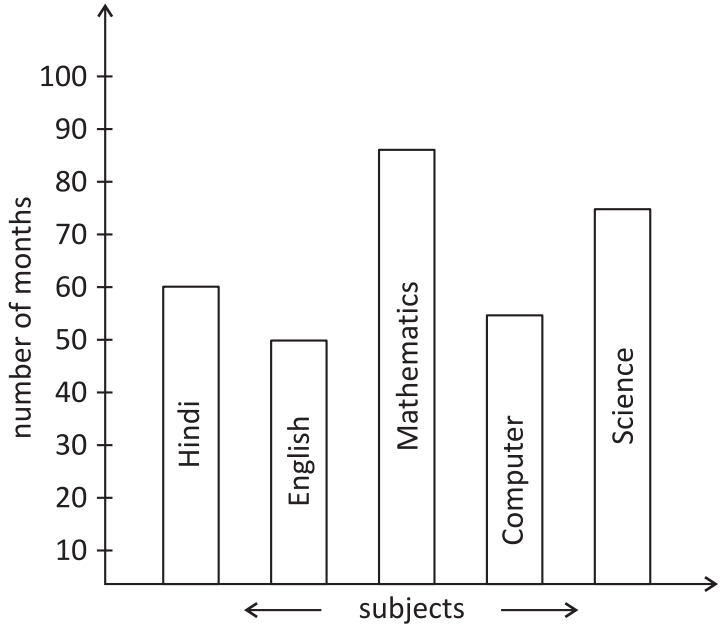
1.



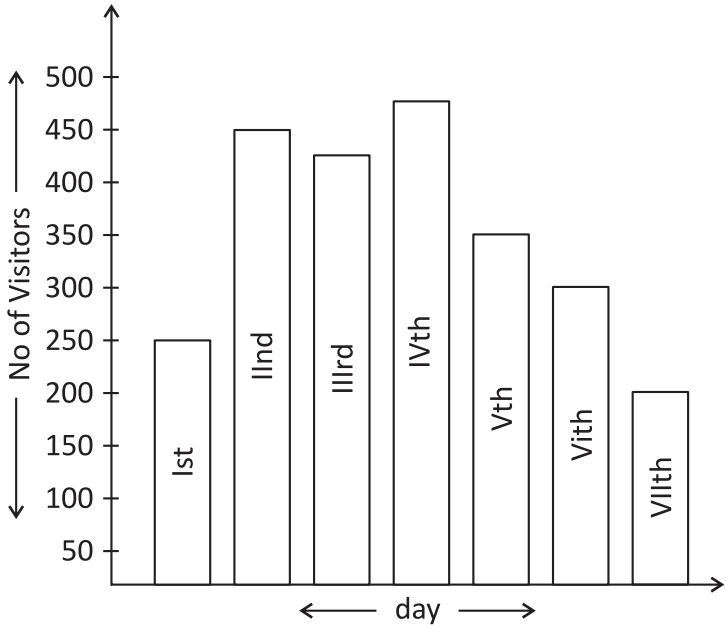
2.


Amount in (F)
50
45
40
35
30
25
20
15
10
5
Apples
Potatoes
Orange
Spinach
Tomato
Brinjal
item

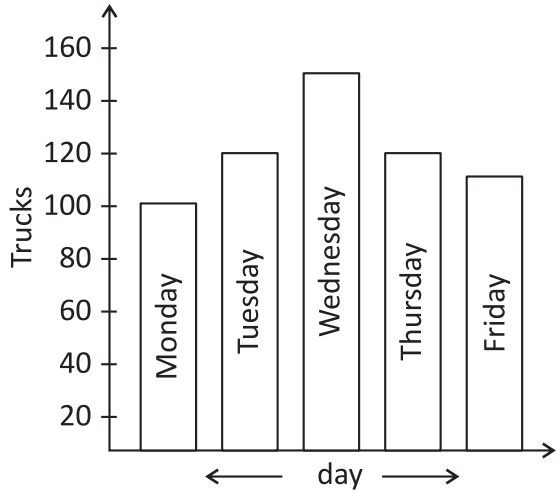
3.


number of months
100
90
80
70
60
50
40
30
20
10
Hindi
English
Mathematics
Computer
Science
subjects

4.



5.



6. (a) 25 (b) Chocolate and Vanila
(c) Rose

7. (a) Shaktiman (b) Harry Porter (c) 6
(d) 14 (20 – 6 = 14) (e) 68 (12 + 20 + 6 + 16 + 14 = 68)

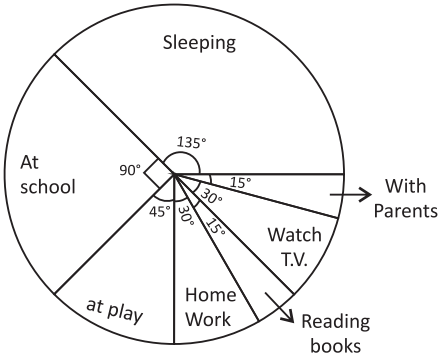
8. (a) Rubi (b) ₹30
(c) Preeti (d) ₹190 (30 + 10 + 50 + 60 + 40 = 190)

Exercise - 17.3

1. (a) ₹120 (b) ₹20 (c) ₹30 (d) ₹20

2.

Time spend on	Time (hours)	Central angle
Speaking	9	$\frac{9}{24} \times 360 = 135°$
at school	6	$\frac{6}{24} \times 360 = 90°$
at play	3	$\frac{3}{24} \times 360 = 45°$
Home work	2	$\frac{2}{24} \times 360 = 30°$
Reading books	1	$\frac{1}{24} \times 360 = 15°$
Watching TV	2	$\frac{2}{24} \times 360 = 30°$
Time with Parents	1	$\frac{1}{24} \times 360 = 15°$



3. (a) (iii) (b) (ii)

(c) Like to wet in rain $= \frac{3}{4} \times 32$

$3 \times 8 = 24$

Do not like to wet $= \frac{1}{4} \times 32 = 8$

MCQ

1. (b) 2. (c) 3. (c)

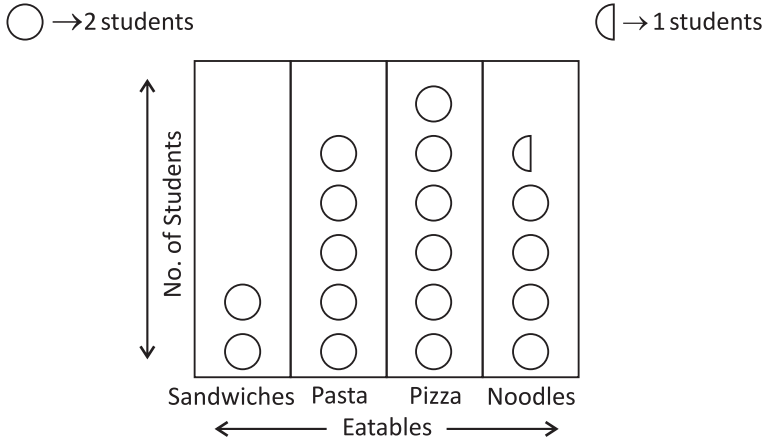
Text Exercise

1.

Eatable	Tally Mark	No. of Student
Sandwiches	IIII	4
Pasta	~~IIII~~ ~~IIII~~	10
Pizza	~~IIII~~ ~~IIII~~ II	12
Noodles	~~IIII~~ IIII	35
	Total	35

Vertical

Pictograph



2. (a) Honey (b) 120 (80 + 40 = 120)
   (c) 300 shells (40 + 80 + 60 + 100 + 20 = 300)
   (d) Vini
3. (a) The graph depits number of people with different blood groups
   (b) Scale
   1 Square = 10 people
   (c) B
   (d) AB
   (e) 80

18 Reasoning : Verbal & Non-Verbal and Logical

Exercise - 18.1

1. (d) Not in alphabetical order
2. (c) I should be at third place and J at IInd Place
3. (d) alphabetical order, other not in alphabetical order
4. (a) Not in alphabetical order
5. (c) Others not in alphabetical order
6. (d) Not in ascending order
7. (c) Not in descending order
8. (d) Middle numbers not same
9. (b) Numbers are not continuos
10. (d) Not ascending or descending in Proper order
11. (a) Not a part of plant
12. (d) Not a study Material

13. (c) not straight
14. (b) arrow point is not straight
15. (c) shaded part is different from others
16. (c) Not a part of circle
17. (a) Pointer in different direction
18. (b) its upside down not correct
19. (c) inside figure not inverted
20. (c) pointer shifted by 2 corners
21. (d) all corners not marked
22. (c) total boundry not curved
23. (c) opposite block not shaded

Exercise - 18.2

1. (a) Ist dot removed then its figure
2. (c) line segment from inside removed one by one
3. (d) half circle added in each step
4. (c) shaded part moving clock wise
5. (d) x moving anti clock wise
6. (a) arrow point moving anti clock wise
7. (c) symbols moving clock wise with its arrangements
8. (a) opposite corners figures interchanging
9. (c)
10. (d) line segments increasing, dots decreasing
11. (a)

Exercise - 18.3

1. (c) decreasing order of alphabets
2. (b) decreasing order of alphabets by 1, 2, 3, 4
3. (d) decreasing order of alphabets by 2, 4, 6, 8
4. (a) decreasing order by 1, 2, 4, 6 ..... .
5. (c) alternately increasing
6. (b) gap of 3 alphabets
7. (d) number + 4
8. (b) number + 20
9. (c) adding 1, 2, 3, 4
10. (a) decreasing by 2, 3, 4, 5
11. (d) adding 9

Exercise - 18.4

1. (d) 2. (c) 3. (c)

Exercise - 18.5

1. (a) 2. (a) 3. (b)
4. (d) 5. (c) 6. (c)

Exercise - 18.6

1. (c) $13-(5+3)=5$
2. (c) $22+40=62$
3. (b) numbers written in order
4. (a) $45+12+34+23=120$
5. (d) $30+31+34=103$
6. (b) adding 2 to 9 = 11
7. (a) $26+24+42+30=132$
8. (d) $6\times4+1\times5=29$
9. (c) $5\times10\times7=350$
10. (d) $3\times2\times4\times2=48$
11. (a) $(20+14)-(8+12)=14$