CLASS-4

Revision

1. **Write the following numbers in words :**
   (a) Eighty six thousand four hundred thirteen (b) Twenty three thousand three hundred seventy five (c) Sixty two thousand four hundred fifty six (d) Thirty nine thousand one hundred eighty one (e) Ninety four thousand three hundred fifty nine (f) Fourteen thousand seven hundred eighteen
2. **Answer the following questions according to the given pictures :**
   (a) The cost of television is = ₹ 8524
   The cost of fridge is = ₹ 9528
   Difference between them = 9528 – 8524 = ₹ 1004
   (b) The cost of fan is = ₹ 1324
   The cost of table is = ₹ 3178
   Total cost = 1324+3178 = ₹ 4502
   (c) The cost of mobile = ₹ 3250
   The cost of swing machine = ₹1486
   Difference between them = 3250– 1486 = ₹ 1764
   The cost of mobile is greater.
   (d) The cost of bed is = ₹ 5640
   The cost of table is = ₹ 3178
   Difference between them = 5640 – 3178 = ₹ 2462
   The cost of bed is greater.
   (e) The cost of swing machine is = ₹ 1486
   The cost of fan is = ₹ 1324
   Difference between them = 1486 – 1324 = ₹ 162
   the cost of swing machine is greater.
   (f) The cost of fridge is = ₹ 9528
   The cost of fan is = ₹ 1324
   Difference between them = 9528 – 1324 = ₹ 8204
3. **Fill in the blanks in the given table :**
   (a) Eight thousand forty seven
   (b) 6523 (c) Five thousand two
   (d) 9254
4. **Write the following numbers in the expended form :**
   (a) 60000 + 1000 + 900 + 80 + 6
   (b) 40000 + 2000 + 90 + 6
   (c) 20000 + 800 + 80
   (d) 30000+1000+200+90+6
5. **Write the following numbers in short form :**
   (a) 5875 (b) 6796 (c) 24632
   (d) 300207 (e) 10720 (f) 605031
6. **Write the following numbers in ascending order :**
   (a) 5, 56, 260, 3523 (b) 7, 77, 777, 7077(c) 188, 909, 2150,4120
   (d) 6, 97, 480, 1999, 4876
   (e) 99, 909, 9009, 9109, 9999
7. **Write the following numbers in descending order :**
   (a) 1676, 1660, 1612, 1602
   (b) 8900, 5612, 5608, 4003, 315
   (c) 9900, 9099, 9000, 999, 99
   (d) 2220, 1888, 909, 12, 8
8. **Find the numbers with the help of abacus stand :**
   (a) Five thousand three hundred forty two or 5342 (b) Four thousand five hundred forty six or 4546

9. Use =, >, < in the blanks to make the following sentences correct :

(a) 3000 > 999 (b) 4305 > 3504
(c) 5911 = 5911 (d) 9999 < 10000
(e) 6255 > 625 (f) 8023 < 8025

10. The place value of 6 is 60.
(b) The place value of 4 is 4000.
(c) The place value of 4 is 40000.
(d) The place value of 3 is 3.
(e) The place value of 2 is 200000.
(f) The place value of 2 is 20000.

11. Fill in the blanks :

(a) 3978 (b) 4580 (c) 1000 (d) 1000
(e) The place value of first 7 is = 7000
The place value of second 7 is = 70
Difference = 7000 – 70 = 6930
(f) The value is = 3079

12. Solve the following questions :

(a) 9800 – 5997 = 3803 (b) 6378 – 5339 = 1039 (c) 8649 – 5398 = 3251 (d) 9843 – 4376 = 5467
(e) 9605 – 3515 = 6090

13. Add :

(a) 2415 + 3592 = 6007 (b) 3516 + 2189 + 3932 = 9637 (c) 4478 + 2609 + 1871 = 8958 (d) 3251 + 2518 + 2054 = 7823 (e) 545 + 290 + 955 = 1790 (f) 965 + 316 + 95 = 1376

14. Solve the following questions :

(a) 5236 + 1256 – 3251 ⇒ 6492 – 3251 = 3241
(b) 4258 – 1325 + 90 ⇒ 2933 + 90 = 3023
(c) 4325 + 226 – 35 ⇒ 4551 – 35 = 4516
(d) 3250 – 1567 + 456 ⇒ 1683 + 456 = 2139

15. The monthly income of Reesha's father is = ₹ 5840
The monthly income of her mother is = ₹ 3425
Reesha's grandmother earns from home industry = ₹ 325
Total income of Reesha's family = 5840 + 3425 + 325 = ₹ 9590

16. Hazel has = ₹ 9544
She bought D.V.D player of = ₹ 3256
Now, she has = 9544 – 3256 = ₹ 6288

17. Total population of a village = 5231
Men in the village = 2024
Women in the village = 1938
Total population of men and women are = 2024 + 1938 = 3962
Population of children in village are = 5231 – 3962 = 1269

18. Mansi had = ₹ 3524
She got salary = ₹ 5952
Now, she has money = 3524 + 5952 = ₹ 9476
She bought grocery item of = ₹ 2238
She has remaining money = 9476 – 2238 = ₹ 7238

19. Multiply :

(a)
$$\begin{array}{r} 412 \\ \times\ 13 \\ \hline 1236 \\ 412\times \\ \hline 5356 \end{array}$$

(b)
$$\begin{array}{r} \overset{⑤}{5}\ \overset{②}{8}\ 4 \\ \times\ 16 \\ \hline 3504 \\ 584\times \\ \hline 9344 \end{array}$$

(c)
$$\begin{array}{r} \overset{③}{3}\ \overset{①}{4}\ 2 \\ \times\ 18 \\ \hline 2736 \\ 342\times \\ \hline 6156 \end{array}$$

(d)
$$\begin{array}{r} \overset{⑥}{2}\ \overset{①}{8}\ 2 \\ \times\ 18 \\ \hline 2256 \\ 282\times \\ \hline 5076 \end{array}$$

(e)
$$\begin{array}{r} \overset{④}{1}\ \overset{③}{9}\ 6 \\ \times\ 15 \\ \hline 980 \\ 196\times \\ \hline 2940 \end{array}$$

(f)
$$\begin{array}{r} 713 \\ \times\ 12 \\ \hline 1426 \\ 713\times \\ \hline 8556 \end{array}$$

20. Write the shaded portion and white portion in fractions :

(a) 1/3 (b) 1/4 (c) 2/5

21. Divide :

(a) $8\overline{)72}\,(9$, 72, $\times$

(b) $10\overline{)170}\,(17$, $10\downarrow$, 70, 70, $\times$

(c) $15\overline{)105}\,(7$, 105, $\times$

(d) $2\overline{)2246}\,(1123$, $2\downarrow$, 2, $2\downarrow$, 4, $4\downarrow$, 6, 6, $\times$

(e) $3\overline{)3396}\,(1132$, $3\downarrow$, 3, $3\downarrow$, 9, $9\downarrow$, 6, 6, $\times$

(f) $4\overline{)4848}\,(1212$, $4\downarrow$, 8, $8\downarrow$, 4, $4\downarrow$, 8, 8, $\times$

22. Fill in the blanks :

(a) $\frac{5}{17} + \frac{4}{17}$

$= \frac{5+4}{17} = \frac{9}{17}$

(b) $\frac{9}{11} + \frac{13}{11}$

$= \frac{9+13}{11} = \frac{22}{11} = 2$

(c) $\frac{7}{13} + \frac{6}{13} + \frac{5}{13}$

$= \frac{7+6+5}{13} = \frac{18}{13} = 1\frac{5}{13}$

(d) $\frac{8}{15} - \frac{3}{15}$

$= \frac{8-3}{15} = \frac{5}{15} = \frac{1}{3}$

(e) $\frac{200}{17} - \frac{8}{17}$

$= \frac{200-8}{17} = \frac{192}{17} = 11\frac{5}{17}$

(f) $\frac{33}{87} - \frac{22}{87}$

$= \frac{33-22}{87} = \frac{11}{87}$

23. Change the following :

(a) 2 m 75 cm

We know 1 m = 100 cm $\Rightarrow$ 2 m $\times$ 100 = 200 cm $\Rightarrow$ 200 cm + 75 c, = 275 cm

(b) 5 km 650 m

We know 1 km = 1000 m $\Rightarrow$ 5 km $\times$ 1000 = 5000 m $\Rightarrow$ 5000 m + 650 m = 5650 m

(c) 41655 ml

We know 1 *l* = 1000 *ml* $\Rightarrow$ 4 1 $\times$ 1000 = 4000 *ml* $\Rightarrow$ 4000 *ml* + 655 *ml* = 4655 *ml*

(d) 4 kg 350 gm

We know 1 k gm = 1000 gm $\Rightarrow$ 4 $\times$ 1000 = 4000 gm $\Rightarrow$ 4000 gm + 350 gm = 4350 gm

(e) 6582 ml

We know 1 *ml* = 0.001 *l* $\Rightarrow$ 6582 $\times$ 0.001 $\Rightarrow$ 6.5821

(f) 6290 gm

1 gram = 0.001 $\Rightarrow$ 6290 $\times$ 0.001 $\Rightarrow$ 6.29 kg

24. Add the following measurement :

(a)

	m	cm
	3	60
+	4	75
	8	35

(b)

	m	cm
	55	90
+	45	60
	101	50

(e)
	m	cm
	455	75
+	45	89
	501	64

(f)
	m	cm
	272	90
+	197	05
	469	95

	m	cm
	143	40
+	93	50
	236	90

	m	cm
	153	50
+	94	95
	248	45

25. Subtract the following measurement :

(a)
	m	cm
	72	27
–	29	28
	42	99

(b)
	m	cm
	55	90
–	45	60
	10	30

(c)
	m	cm
	88	79
–	56	88
	31	91

(d)
	m	cm
	98	65
–	59	87
	38	78

(e)
	m	cm
	143	40
–	93	50
	49	90

(f)
	m	cm
	6056	00
–	2157	15
	3898	85

26. Match the following :

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

27. Write the time after seeing the pictures :

(a) 3 : 00 (b) 10 : 30
(c) 5 : 15 (d) 7 : 45

28. Write a.m. or p.m. in boxes :

(a) 7 : 15 a.m. (b) 8 : 45 p.m.

29. A leap year has 366 days.

32. Change into dozen :

(a) 2 gross 5 dozen
1 gross = 12 dozen
2 gross = 12×2=24 dozen
24 dozen + 5 dozen = 29 dozen
(b) 1 gross 1 dozen
1 gross = 12 dozen
12 dozen + 1 dozen = 13 dozen
(c) 6 gross 1 dozen
1 gross = 12 dozen
6 gross = 6×12 = 72 dozen
72 dozen + 1 dozen = 73 dozen

33. Do yourself

Number System

Exercise- 2.1

1. Write the next five numbers for each of the following :

(a) 63912 = 63913, 63914, 63915, 63916, 63917
(b) 120935 = 120936, 120937, 120938, 120939, 120940
(c) 354937 = 354938, 354939, 354940, 354941, 354942
(d) 99091 = 99092, 99093, 99094, 99095, 99096
(e) 433451 = 433452, 433453, 433454, 433455, 433456
(f) 519831 = 519832, 519833, 519834, 519835, 519836

2. Observe the pattern carefully and write next three numbers :

(a) 43459, 43460, 43461
(b) 234583, 234581, 234579
(c) 134869, 134969, 135069
(d) 15347, 16347, 17347

3. Arrange the following numbers in ascending orders :

(a) 131457, 131458, 131459, 131460 (b) 43457, 43458, 43459, 43460, 43461 (c) 562233, 562234, 562235, 562236, (d) 234570, 234571, 234572, 234573, 234574, 234575

4. Write the place values of the encircled digits :

(a) 3000 (b) 9 (c) 80
(d) 60000 (e) 8000 (f) 700

5. Counting by 5's write the numbers between :

(a) 334128, 334133, 334138, 334143 (b) 74768, 74773, 74778, 74783 (c) 43715, 43720, 43725 (d) 558770, 558775, 558780, 558785

6. Counting by 10's write the numbers between :
(a) 54330, 54340, 54350 (b) 78931, 78941, 78951 (c) 735444, 735454, 735464 (d) 44402, 44412, 44422

7. Counting by 100's write the numbers between :
(a) 35500, 35600, 35700, 35800 (b) 625805, 625905, 626005, 626105
(c) 21454, 21554, 21654, 21754
(d) 58476, 58576, 58676, 58776

8. Counting by 1000's write the numbers between :
(a) 33544, 34544, 35544,
(b) 79366, 80366, 81366
(b) 516876, 517876, 518876
(d) 36896, 37896, 38896

9. Smallest number of five digit = 10000

10. Greatest number of five digit = 99999

11. Smallest number of six digits = 100000

12. Greatest number of six digits = 999999

Exercise - 2.2

1. Write the place value of the digits encircled in each number :
(a) 2 (b) 30000 (c) 30000
(d) 3 (e) 3000 (f) 700

2. Write the face value of the digits encircled in each number :
(a) 2 (b) 7 (c) 8 (d) 2 (e) 9 (f) 9

3. Arrange the following numbers in Indian place value chart :
(a)

Ten Th	Th	Hundred	Ten	One
5	8	0	0	9

= 58009

(b)

Lac	Ten Th	Thou sand	Hund red	Ten	One
6	5	8	3	4	5
600000	50000	8000	300	40	5

= 658345

(c)

Ten Th	Th	Hundred	Ten	One
5	5	3	9	2
50000	5000	300	90	2

= 55392

(d)

Ten Th	Th	Hundred	Ten	One
8	1	5	6	8
80000	1000	500	60	8

= 81568

4. How many digits are there in each of the following :
(a) 5 digit (b) 6 digit
(c) 6 digit (d) 6 digit

5. Write the following numbers in expanded form :
(a) 50000+ 8000 + 900 + 60 +3
(b) 700000 + 70000 + 9000 + 200 + 80 + 3 (c) 50000 + 8000 + 700 + 60 + 3 (d) 300000 + 40000 + 3000 + 200 + 50 + 1 (e) 100000 + 20000 + 5000 + 400 + 90 + 3 (f) 20000 + 8000 + 700 + 30 + 9

6. Write the following numbers in short form :
(a) 56093 (b) 6987
(c) 83578 (d) 35901

7. Mark the periods of each of the following numbers :
(a) 5,79,832 (b) 2,59,632 (c) 58,763

8. Which is the expanded form of 78912 :
= 70000 + 8000 + 900 + 10 + 2
(b) is true

Exercise - 2.3

1. Fill in the blanks with <, > or = :
(a) 21593 > 15879 (b) 7893 < 15193
(c) 5870 = 5872
(d) 3152 = 2 ×1576 (3152)

2. Arrange the following numbers in the place value chart and ascending order :
(a) 780, 1529, 1983, 2222, 3001

(b) 572, 3354, 35231, 89760, 98705
(c) 7, 77, 777, 7777, 77777

3. Arrange the following numbers in place value chart and descending order :
(a) 4319, 3421, 2001, 1000
(b) 11000, 9582, 5807, 3543, 1529
(c) 576340, 8000, 4263, 1546, 325

4. Successor (+1)
(a) 89671 (b) 8707 (c) 8100 (d) 7701
(e) 9782 (f) 271 (g) 8830 (h) 9877

5. Predecessor (–1)
(a) 7701 (b) 5875 (c) 43011(d) 2104
(e) 549 (f) 590 (g) 9089 (h) 159826

6. Find the greatest numbers in each of the following sets of numbers :
(a) 289900 (b) 510510

7. Greatest 3 digit number
= 999 + 1 = 1000

8. Greatest 3 digit number
= 999 – 1 = 998

9. 100000 – 1 = 99999

10. 51823, 53812, 35812, 85123

11. Ascending order
35812, 51823, 53812, 85123
Descending order
85123, 53812, 51823, 35812

12. Find the smallest number in each of the following :
(a) 1879 (b) 500 (c) 2535

13. Write 'T' for true and 'F' for false statements :
(a) True (b) False (c) True (d) False
(e) True (f) False (g) False

14. Write the number of digits in the following numbers :
(a) 7 (b) 6 (c) 6 (d) 5

15. Write the successor and predecessor of the following numbers :
(a) Predecessor 28645 – 1 = 28644
Successor 28645 + 1 = 28646
(b) Predecessor 4286 – 1 = 4285
Successor 4286 + 1 = 4287
(c) Predecessor 2964 – 1 = 2963
Successor 2964 + 1 = 2965
(d) Predecessor 486798–1 =486797
Successor 486798 + 1 = 486799
(e) Predecessor 99999 – 1 = 99998
Successor 99999 + 1 = 100000
(f) Predecessor 10000 – 1 = 9999
Successor 10000 + 1 = 10001

16. Write the place value of the underlined digits :
(a) 80 (b) 700 (c) 4 (d) 60 (e) 500

Addition of Numbers

Exercise - 3.1

1. (a)

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

(b)

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

(c)

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

(d)

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

(e)

	TTh	Th	H	T	O
	5	2	9	3	8
+	8	0	1	7	2
	13	3	1	1	0

(f)

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

(g)

	TTh	Th	H	T	O
	7	8	9	2	5
+	2	1	3	9	5
	10	0	3	2	0

(h)

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

(i)

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

(j)

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

(k)

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

(l)

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

(m)

	TTh	Th	H	T	O
	6	7	7	4	3
	7	8	2	3	1
+			4	0	0
	14	6	3	7	4

(n)

	TTh	Th	H	T	O
	7	8	5	2	3
	1	3	4	5	6
+	2	3	8	7	8
	11	5	8	5	7

(o)

	TTh	Th	H	T	O
	6	3	4	5	9
	3	8	3	7	8
+			9	0	0
	10	2	7	3	7

(p)

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

(q)

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

(r)

	TTh	Th	H	T	O
		5	5	5	5
	5	5	5	5	5
+				5	5
	6	1	1	6	5

(s)

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

(t)

	TTh	Th	H	T	O
	6	5	3	9	2
		2	9	3	5
+	6	3	5	8	9
	13	1	9	1	6

Exercise - 3.2

1. (a)

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

(b)

	L	TTh	Th	H	T	O
	7	8	5	2	3	1
+	6	6	3	9	5	2
	14	4	9	1	8	3

(c)

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

(d)

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

(e)

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

(f)

	L	TTh	Th	H	T	O
	7	8	5	3	9	2
+	8	6	7	8	2	9
	16	5	3	2	2	1

(g)

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

(h)

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

Exercise - 3.3

1. Population of city = 759523
P. of other city = + 586293
Both city sum = 1345816

2. Jane bought a plot = ₹ 35600
Construction cost = + ₹ 285750
Total Amount = ₹321350

3. First deposited = ₹ 95723
Second deposited = + ₹ 800000
Total = ₹895723

4. Old movies CDs = 26000
New movies CDs = 58769
Eng. movies CDs = + 660000
Total CDs = 744769

5. In 2001 he earned = ₹ 65821
2002 he earned = + ₹ 75938
2003 he earned = ₹ 35897
Total Amount = ₹177656

6. Production of bicycle
In October = 700000
In November = 85900
In March = + 935876
Pro. of 3 months = 1721776

7. In godown
Sugar bags = 78500
Wheat bags = + 96566
Total bags = 175066

8. 1st year students = 253972
2nd year students = 752836
3rd year students = + 35628
Total students = 1042436

9. A milk dairy sold = 58760
Consequent week = 63958
Consequent week = + 21000
Total litres milk = 143718

10. Cost of T.V = ₹21000
Cost of Scooter = + ₹35750
Total Amount = ₹56750

11. Numbers of men = 657839
Num. of women = 76354
Num. of children = + 2060
Total population = 736253

12. A jeweller
sold gold ornament = ₹787600
sold silver ornament = + ₹35876
Total sales = ₹823476

13. Population of
First town = 135000
Second town = + 456390
Total population = 591390

14. Production of bulbs
First day = 395600
Second day = + 78635
Total production = 474235

15. Publisher sold copies of book
In 2001 = 6523
In 2002 = 8708
In 2003 = + 9872
Total = 25103

16. (a) Third candidate votes
= 200931 votes
(b) Fourth candidate votes
= 265243 votes
(c) Maximum number
= Fourth candidate
(d) Total votes in election
= 863625 votes
(e) Candidate least votes got
= First candidate

17. (a) Amount of
Colour T.V = ₹12126
Refrigerator = +₹16960
Total = ₹29086

(b) Amount of
Microwave = ₹8562
Refrigerator = +₹16960
Total = ₹25522

(c) Amount of
Color T.V = ₹12126
Microwave = + ₹8562
Total = ₹20688

(d) Amount of
Color T.V = ₹1 2126
Refrigerator = ₹1 6960
Microwave = + ₹8562
Total = ₹37648

(e) She had = ₹50000
Spent = –₹37648
She has = ₹12352

MCQs 1. (b) **2.** (c) **3.** (a) **4.** (d) **5.** (c)

Subtraction of Numbers

Exercise - 4.1

1. Subtract :

(a)

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

(b)

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

(c)

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

(d)

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

(e)

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

(f)

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

(g)

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

(h)

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

(i)

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

(j)

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

(k)

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

(l)

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

2. Subtract 9,025 from each of the following :

(a) 29034 – 9025 = 20009

(b) 785392 – 9025 = 776367

(c) 375287 – 9025 = 366262

(d) 300958 – 9025 = 291933

(e) 10000 − 9025 = 975

(f) 58763 − 9025 = 49738

3. Subtract 8,752 from each of the following:

(a) 10000 − 8752 = 1248

(b) 9000 − 8752 = 248

(c) 100000 − 8752 = 91248

(d) 80000 − 8752 = 71248

(e) 700000 − 8752 = 691248

(f) 15000 − 8752 = 6248

4. Minuend:

(a)

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

(b)

	TTh	Th	H	T	O
	10	4	7	0	9
+	7	3	4	5	6
	3	1	2	5	3

(c)

	TTh	Th	H	T	O
	5	5	5	5	5
+	3	3	3	3	3
	2	2	2	2	2

5. Find the subtrahend in the following sums:

(a)

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

(b)

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

6. Find the difference of the following:

(a)

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

(b)

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

Exercise - 4.2

1. Cost of car = ₹215000
Cost of m.cycle = − ₹50000
Both difference = ₹165000

2. Alan has = ₹800000
Buys a plot = − ₹762000
He has now = ₹38000

3. Smallest 6 digit no. = 100000
Greatest 5 digit no. = − 99999
Difference = 000001

4. Johnny sold house = ₹426343
Johnny bought it = − ₹39556
He got more = ₹386787

5. 526389 − 156580 = 369809 should be added

6. The population of village
In 2003 = 132586
The population of village in 1999 = − 78392
Increase in population = 54194

7. Population of town =
Females are = 187639
Males are = − 50587
= 137052

8. Length of wire = 85354 m
cut off wire = − 700 m
remaining wire = 84654 m

9. 100000 − 38769 = 61231 should be added

10. 835439 − 50000 = 785439 should be subtracted

11. Shopkeeper had
sugar in stock = 85000 kg
He sold sugar = − 50354 kg
Sugar left in stock = 34646 kg

12. 1st type computer = 75836
2nd type computer = 40000
3rd type computer = + 58362
Total computer = 174198
Total computer in shop = 174198
Sold computer = − 78354
Computer left in shop = 95844

13. Sum
100354 + 60000 = 160354
85630 − 7000 = 78630
Difference = 160354 − 78630 = 81724

14. Ahmad deposited = ₹100000
Withdraw = −₹55600
Balance = ₹44400

15. (a) The sale on Monday = ₹ 38568
The sale on Tuesday = −₹31230
Total = ₹69798

(b) The sale on Tuesday = ₹ 31230
The sale on Wednesday = −₹42930
Total = ₹74153

(c) The sale on Wed. = ₹42923
The sale on Monday = −₹38568
Total = ₹81491

(d) Sale on Monday = ₹38568
Sale on Tuesday = −₹31230
Difference = ₹ 7338

(e) Sale on Tuesday = ₹42923
Sale on Wednesday = −₹31230
Difference = ₹11693

(f) He has money total =
₹ 38568
₹ 31230
+ ₹ 42923
112721
₹112721
He bought goods = − ₹62265
He left ₹50456

MCQs : 1. (b) **2.** (c) **3.** (a) **4.** (d) **5.** (b)

Multiplication of Numbers

Exercise - 5.1

1. (a) $78 \times 100 = 78 \times 1$ hundred
$= 7800$

(b) $371 \times 100 = 371 \times 1$ hundred
$= 371$ hundred
$= 37100$

(c) $370 \times 100 = 370 \times 1$ hundred
$= 370$ hundred
$= 3700$

(d) $198 \times 200 = 198 \times 2$ hundred
$= 396$ hundred
$= 39600$

(e) $300 \times 375 = 375 \times 3$ hundred
$= 1125$ hundred
$= 112500$

(f) $627 \times 100 = 627 \times 1$ hundred
$= 62700$

(g) $75 \times 100 = 75 \times 1$ hundred
$= 75$ hundred
$= 7500$

(h) $156 \times 2000 = 156 \times 2$ thousand
$= 312$ thousand
$= 312000$

(i) $575 \times 3000 = 575 \times 3$ thousand
$= 1725$ thousand
$= 1725000$

(j) $178 \times 400 = 178 \times 4$ hundred
$= 712$ hundred
$= 71200$

2. (a) $88 \times 4000 = 88 \times 4$ thousand
$= 352$ thousand
$= 352000$

(b) $9 \times 4000 = 9 \times 4$ thousand
$= 36$ thousand
$= 36000$

(c) $186 \times 4000 = 186 \times 4$ thousand
$= 744$ thousand
$= 744000$

(d) $44 \times 4000 = 44 \times 4$ thousand
$= 176$ thousand $= 176000$

(e) $777 \times 4000 = 777 \times 4$ thousand
$= 3108$ thousand $= 3108000$

(f) $273 \times 4000 = 273 \times 4$ thousand
$= 1092$ thousand $= 1092000$

3. Fill in the blanks :

(a) $37 \times 100 = \boxed{3700}$

(b) $\boxed{76} \times 1000 = 76000$

(c) $975 \times 200 = \boxed{195000}$

(d) $367 \times \boxed{20} = 7340$

4. Find the product :

(a)
$$\begin{array}{r} 246 \\ \times\ 27 \\ \hline 1722 \\ 492\times \\ \hline 6642 \end{array}$$

(b)
$$\begin{array}{r} 778 \\ \times\ 55 \\ \hline 3890 \\ 3890\times \\ \hline 42790 \end{array}$$

(c)
$$\begin{array}{r} 677 \\ \times\ 56 \\ \hline 4062 \\ 3385\times \\ \hline 37912 \end{array}$$

(d)
$$\begin{array}{r} 816 \\ \times\ 58 \\ \hline 6528 \\ 4080\times \\ \hline 47328 \end{array}$$

(e)
$$\begin{array}{r} 676 \\ \times\ 47 \\ \hline 4732 \\ 2704\times \\ \hline 31772 \end{array}$$

(f)
$$\begin{array}{r} 2176 \\ \times\ 300 \\ \hline 0000 \\ 0000\times \\ 6528\times\times \\ \hline 652800 \end{array}$$

(g)
$$\begin{array}{r} 798 \\ \times\ 87 \\ \hline 5586 \\ 6384\times \\ \hline 69426 \end{array}$$

(h)
$$\begin{array}{r} 347 \\ \times\ 95 \\ \hline 1735 \\ 3123\times \\ \hline 32965 \end{array}$$

(i)
$$\begin{array}{r} 872 \\ \times\ 654 \\ \hline 3488 \\ 4360\times \\ 5232\times\times \\ \hline 570288 \end{array}$$

(j)
$$\begin{array}{r} 3728 \\ \times\ 287 \\ \hline 26096 \\ 29824\times \\ 7456\times\times \\ \hline 1069936 \end{array}$$

(k)
$$\begin{array}{r} 3718 \\ \times\ 289 \\ \hline 33462 \\ 29744\times \\ 7436\times\times \\ \hline 1074502 \end{array}$$

(l) $5 \times 7 \times 6 \times 89$
$35 \times 6 \times 89$
210×89

$$\begin{array}{r} 210 \\ \times\ 89 \\ \hline 1890 \\ 1680\times \\ \hline 18690 \end{array}$$

(m) $575 \times 3 \times 100 = 1725 \times 100 = 172500$

(n) $3 \times 746 \times 270$
$= 2238 \times 270$

$$\begin{array}{r} 2238 \\ \times\ 270 \\ \hline 0000 \\ 15666\times \\ 4476\times\times \\ \hline 604260 \end{array}$$

5. Find the product when the multiplicands and the multiplier are as follows :

S. No.	Multiplicands	Multipliers	Products
(a)	375	240	90000
(b)	586	780	457080
(c)	3,940	29	114260
(d)	378	321	121338
(e)	5,138	111	570318
(f)	3,746	536	2007856
(g)	3,758	23	86434

Exercise - 5.2

1. Monthly fee of a student = ₹ 200
Fee of 24 months = $\begin{array}{r} \times\ 24 \\ \hline 800 \\ 400\times \\ \hline ₹\ 4800 \end{array}$

2. Weight of box containing mangoes = 0.275 kg
Total such boxes = 278 kg

$$\begin{array}{r} 8220 \\ 17192\,5\times \\ 20550\times\times \\ \hline 285\,6.450 \end{array}$$

Weight of 278 boxes = 2856.450 kg

3. A box contains = 345 Apples
Total boxes = × 275

		1	7	2	5
	2	4	1	5	×
	6	9	0	×	×
9	4	8	7	5	

Total Apples

4. A weaving machine make in day = 334.75 m cloth
One year = × 365

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

Cloth in one year = 122183.75 m

5. An almirah can held = 437 books
370 almirah can held = 437 × 370
Total books = 161690

6. Price of a note books = ₹ 50
Price of 587 books = 50 × 587
Total price = ₹ 29350

7. Shopkeeper sells cloth
in a day = 298.70 m
Feb. 2004 (29 days) = 298.70 × 29
= 8662.30

8. A bag contain wheat = 40.370 kg
225 bag contain = 40.370 × 225
= 9083.250kg

9. In one round a bus carry
= 48 passengers
In 270 round a bus carry
= 48 × 270 passengers
= 12960 passengers

10. A water cooler cost = ₹ 3817
39 such water cooler cost
= 3817 × 39 = 148863

11. A tin contain oil = 5029 ml
73 tin contain oil = 5029 × 73 ml
= 367117 ml
= 367.117 litre

12. Rows in garden = 72
A row contains = 357
Total plant = 72 × 357 = 25704

13. A scooter cost = ₹ 30200
19 scooter cost = ₹ 30200 × 19
= ₹ 573800

14. A cow cost is = ₹ 6000
69 cows cost are = ₹ 6000 × 69
= 414000

Exercise - 5.3

1. 9 × 5 – 4 × 3 + 2 × 6
= 45 – 12 + 12
= 57 – 12 = 45

2. 10 × 6 – 3 × 7 – 3 × 3
= 60 – 21 – 9
= 60 – 30 = 30

3. 105 – 3 × 7 + 13 × 7
= 105 – 21 + 91
= 196 – 21 = 175

4. 11 × 10 + 3 × 6 – 8 × 15
= 110 + 18 – 120
= 128 – 120 = 8

5. 8 × 7 – 8 × 9 + 5 × 4
= 56 – 72 + 20
= 76 – 72 = 4

6. 15 × 9 + 18 × 5 – 5 × 4
= 135 + 90 – 20
= 225 – 20 = 205

7. 225 – 4 × 5 – 9 × 5
= 225 – 20 – 45
= 225 – 65 = 160

8. 360 + 5 × 5 – 12 × 9
= 360 + 25 – 108
= 385 – 108 = 277

9. 500 – 4 × 3 + 14 × 5
= 500 – 12 + 70
= 570 – 12 = 558

10. 25 × 5 – 40 × 5 + 13 × 9
= 125 – 200 + 117
= 242 – 200 = 42

11. Shopkeeper sold fans = 120 × 750
Shopkeeper sold radio = 30 × 930
Total amount
= 120 × 750 + 30 × 930
= 90000 + 27900 = 117900

12. Number of student = 532
Young boys = 310
Young girls = $\frac{310}{2}$ = 155
Children = 532 – 310 – 155

$= 532 - 465$

Children $= 67$

MCQs : 1. (c) **2.** (b) **3.** (d) **4.** (c) **5.** (b) **6.** (a)

Division of Numbers

Exercise – 6.1

1. (a)
$$\begin{array}{r} 56\overline{)6783}(121 \\ 56\downarrow \\ \hline 118 \\ 112\downarrow \\ \hline 63 \\ 56 \\ \hline 7 \end{array}$$
Quotient = 121
Remainder = 7

(b)
$$\begin{array}{r} 23\overline{)2852}(124 \\ 23\downarrow \\ \hline 55 \\ 46\downarrow \\ \hline 92 \\ 92 \\ \hline 0 \end{array}$$
Quotient = 124
Remainder = 0

(c)
$$\begin{array}{r} 77\overline{)9185}(119 \\ 77\downarrow \\ \hline 148 \\ 77\downarrow \\ \hline 715 \\ 693 \\ \hline 22 \end{array}$$
Quotient = 199
Remainder = 22

(d)
$$\begin{array}{r} 47\overline{)1786}(38 \\ 141\downarrow \\ \hline 376 \\ 376 \\ \hline 0 \end{array}$$
Quotient = 38
Remainder = 0

(e)
$$\begin{array}{r} 18\overline{)1404}(78 \\ 126\downarrow \\ \hline 144 \\ 144 \\ \hline 0 \end{array}$$
Quotient = 78
Remainder = 0

(f)
$$\begin{array}{r} 36\overline{)1575}(43 \\ 144\downarrow \\ \hline 135 \\ 108 \\ \hline 27 \end{array}$$
Quotient = 43
Remainder = 27

(g)
$$\begin{array}{r} 34\overline{)289}(8 \\ 272 \\ \hline 17 \end{array}$$
Quotient = 8
Remainder = 17

(h)
$$\begin{array}{r} 92\overline{)8241}(89 \\ 736\downarrow \\ \hline 881 \\ 828 \\ \hline 53 \end{array}$$
Quotient = 89
Remainder = 53

(i)
$$\begin{array}{r} 46\overline{)3359}(73 \\ 322\downarrow \\ \hline 139 \\ 138 \\ \hline 1 \end{array}$$
Quotient = 73
Remainder = 1

(j)
$$\begin{array}{r} 29\overline{)2117}(73 \\ 203\downarrow \\ \hline 87 \\ 87 \\ \hline 0 \end{array}$$
Quotient = 73
Remainder = 0

(k)
$$\begin{array}{r} 21\overline{)966}(46 \\ 84\downarrow \\ \hline 126 \\ 126 \\ \hline 0 \end{array}$$
Quotient = 46
Remainder = 0

(l)
$$\begin{array}{r} 12\overline{)1176}(98 \\ 108\downarrow \\ \hline 96 \\ 96 \\ \hline 0 \end{array}$$
Quotient = 98
Remainder = 0

(m) $46\overline{)3778}(82$
$368\downarrow$
98
92
6 Quotient = 82, Remainder = 6

(n) $36\overline{)2775}(77$
$252\downarrow$
255
252
3 Quotient = 77, Remainder = 3

(o) $17\overline{)1074}(63$
$102\downarrow$
54
51
3 Quotient = 63, Remainder = 3

(p) $61\overline{)5739}(94$
$549\downarrow$
249
244
5 Quotient = 94, Remainder = 5

2. Find the quotient and remainder when the dividends and divisors as follows :

S. No.	Dividend	Divisor	Quotient	Remainder
(a)	8732	23	379	15
(b)	49726	56	887	54
(c)	5478	39	140	18
(d)	1869	23	81	6
(e)	2547	37	68	31

Exercise - 6.2

1. (a) $78\overline{)1315}(16$
$78\downarrow$
535
468
67 Quotient = 16, Remainder = 67

Check the answer
Dividend = Quotient × Divisor + Remainder
$1315 = 16 \times 78 + 67$
$1315 = 1248 + 67$
$1315 = 1315$ which is true
Answer is correct

(b) $62\overline{)4142}(66$
$372\downarrow$
422
372
50 Quotient = 66, Remainder = 50

Check the answer
Dividend = Quotient × Divisor + Remainder
$4142 = 66 \times 62 + 50$
$4142 = 4092 + 50$
$4142 = 4142$ which is true
Answer is correct

(c) $10\overline{)9829}(982$
$90\downarrow$
82
$80\downarrow$
29
20
9 Quotient = 982, Remainder = 9

Check the answer
Dividend = Quotient × Divisor + Remainder
$9829 = 982 \times 10 + 9$
$9829 = 9820 + 9$
$9829 = 9829$ which is true
Answer is correct

(d) $20\overline{)34345}(1717$
$20\downarrow$
143
$140\downarrow$
34
$20\downarrow$
145
140
5 Quotient = 1717, Remainder = 5

Check the answer
Dividend = Quotient × Divisor + Remainder

34345 = 1717 × 20 + 5
34345 = 34340 + 5
34345 = 34345 which is true
Answer is correct

Exercise 6.3

1. Shalini wants to buy = 7340 pencils
One packets has = 5 pencils

```
5) 7340 (1468
   5
   --
   23
   20
   --
   34
   30
   --
   40
   40
   --
    0
```

Packet of pencils = 1468

2. Total oranges = 3400
Total boxes = 85
Every box has

```
85) 3400 (40
    340
    ---
      0
```

∴ Every box has 40 oranges

3. 4775 divide among 25 children

```
25) 4775 (191
    25
    ---
    227
    225
    ---
      25
      25
      --
       0
```

Each child receive ₹ 191

4. A man earns per year = 30,000

```
12) 30000 (2500
    24
    --
    60
    60
    --
     0
     0
     -
     0
     0
     -
     0
```

Monthly income = ₹ 2500

5. A factory manufactures items = 7500 per month

```
30) 7500 (250
    60
    --
    150
    150
    ---
      0
      0
      -
      0
```

= 250 items per day

6. 8 litres oil's cost = ₹ 720

1 litres oil cost = $\frac{720}{8} = 90$

10 litres oil's cost = $\frac{\cancel{720}}{\cancel{8}} \times 10$

= 90 × 10 = 900

7. 23 toys price = ₹ 460

1 toys price = $\frac{460}{23} = 20$

20 toys price = $\frac{\cancel{460}}{\cancel{23}} \times 20$

= 20 × 20 = ₹ 400

8. 35 tables price is = ₹ 1,75,000

1 table price is = $\frac{\cancel{175000}}{\cancel{35}} = 5000$

9. 45 persons weight is = 2700kg

1 person weight is = $\frac{\cancel{2700}}{\cancel{45}} = 60$ kg

MCQs : 1. (b) **2.** (b) **3.** (a) **4.** (b) **5.** (a) **6.** (c)

Simplifications

Exercise - 7.1

1. Simplify :

(a) 570 – 220 ÷ 10
= 570 – 22 = 548

(b) 72 + 48 ÷ 8
= 72 + 6 = 78

(c) 4200 ÷ 35 + 5834 – 250
= 120 + 5834 – 250
= 5954 – 250 = 5704

(d) 327 × 25 ÷ 5 + 80
= 327 × 5 + 80
= 1635 + 80
= 1715

(e) $78560 - 20340 + 30080 - 3333$
$= 108640 - 23673$
$= 84967$

(f) $3587 + 45893 - 28340$
$= 49480 - 28340$
$= 21140$

Exercise - 7.2

1. Simplify :

(a) $24 \times 6 \div 3$
$= 24 \times 2$
$= 48$

(b) $48 \div 8 - 3$
$= 6 - 3$
$= 3$

(c) $36 \times 6 \div 2$
$= 216 \div 2$
$= 108$

(d) $81 \div 9 + 9$
$= 9 + 9$
$= 18$

(e) $40 \div 4 - 20 \times 2 + 9$ of $4 \div 3 + 25$
$= 40 \div 4 - 20 \times 2 + 36 \div 3 + 25$
$= 10 - 40 + 12 + 25$
$= 47 - 40 \quad = 7$

(f) $6 + 8 \div 2 - 3 \times 2 + 10$ of $2 \div 4$
$= 6 + 8 \div 2 - 3 \times 2 + 20 \div 4$
$= 6 + 4 - 6 + 5$
$= 15 - 6 \quad = 9$

(g) $1400 \div 200 \times 300$
$= 7 \times 300 \quad = 2100$

(h) $121 \div 11 \times 11$
of $5 - 6 \times 9 + 120 \div 40$
$= 121 \div 11 \times 55 - 6 \times 9 + 120 \div 40$
$= 11 \times 55 - 6 \times 9 + 3$
$= 605 - 54 + 3$
$= 608 - 54 \quad = 554$

(i) $400 \div 100$ of $2 \times 3 + 18 - 9$
$= 400 \div 200 \times 3 + 18 - 9$
$= 2 \times 3 + 18 - 9$
$= 6 + 18 - 9$
$= 24 - 9 \quad = 15$

(j) 255 of $5 \div 5 \times 9 + 8 - 3$
$= 1275 \div 5 \times 9 + 8 - 3$
$= 255 \times 9 + 8 - 3$
$= 2295 + 8 - 3$
$= 2303 - 3 \quad = 2300$

Exercise - 7.3

1. Population of town = 178952
Population of men = 700000
Population of women are half than men so = 70,000/2 = 35,00
Total population of men and women
$= 700000$
$+ 350000$
1050000

Now, Number of children in town
$= 178952 - 105000 = 73950$

2. Price of one table $= ₹ 425$
Price of 320 tables $= 425 \times 320$
$= ₹ 136000$
Price of one chair $= ₹ 420$
Price of 48 chairs $= 420 \times 48$
$= ₹ 20160$

Hence, the cost of 320 tables and 48 chairs =
₹136000
− ₹20160
₹156160

3. Price of 1 cycle $= ₹ 900$
Price of 45 cycles $= 900 \times 45$
$= ₹ 40500$
Price of 1 scooter $= ₹ 25000$
Price of 70 scooters $= 70 \times 25000$
$= ₹ 1750000$

Hence, total cost of cycle and scooters =
1750000
− 40500
₹1790500

4. Cost of a bicycle $= ₹ 845$
Cost of a scooter $= 845 \times 19$
$= ₹ 16055$
Cost of motorcycle $= 16055 + 2242$
$= ₹ 18297$
Cost of 2 bicycle $= 2 \times 845$
$= ₹ 1690$
Cost of 3 scooters $= 3 \times 16055$
$= ₹ 48165$
Cost of 2 motorcycle $= 2 \times 18297$
$= ₹ 36594$
Total cost = 86449

5. A bank gives ₹ 35 as an interest on = ₹ 1000
Atul has rupees in bank = ₹10,5000
He will get interest $= \frac{35}{100} \times 105000$
$= 3675$

Total money he will get = 10,5000 + 3675 = ₹ 10,8675

MCQs : 1. (b) **2.** (b) **3.** (d)

Multiples and Factors

Exercise - 8.1

1. First four multiples of 4
= 4 , 8 , 12 , 16

2. First five multiples of 9
= 9 , 18 , 27, 36, 45

3. First three multiples of 13
= 13 , 26, 39,

4. Tenth multiple of 11 = 11 × 10
= 110

5. Seventh multiples of 15 = 15 × 7
= 105

6. Fifth multiple of 12 = 12 × 5
= 60

7. Third multiple of 28 = 28 × 3
= 84

8. Smallest (Non zero) multiple of 25
= 25

9. Multiple of 6 greatest than 24 but less than 48
= 30, 36, 42

10. Smallest multiple of a number is number itself

Exercise - 8.2

1. Factor of 18 = 6, 9, 3, 1, 18

2. Factor of 42 = 1, 3, 2, 6, 7, 42

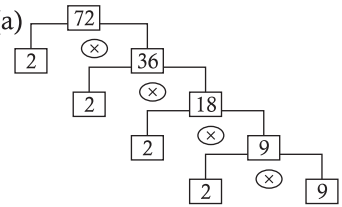
3. Factor of 10 = 1, 2, 5, 10

4. Factor of 15 = 1, 3, 5, 15

5. Factor of 17 = 1, 17

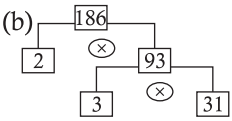
6. (a) 164 = 2 × 2 × 41
(b) 64 = 2 × 2 × 2 × 2 × 2 × 2
(c) 75 = 3 × 5 × 5
(d) 264 = 2 × 2 × 2 × 3 × 11

7. Factor tree method
(a)



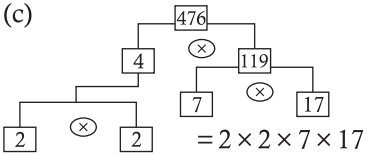
= 2 × 2 × 2 × 3 × 3

(b)



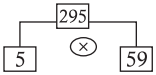
= 2 × 3 × 31

(c)



= 2 × 2 × 7 × 17

(d)



= 5 × 59

Exercise 8.3

1. All even number between 9 and 33
10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32

2. **Write odd number occurring before and after the following:**
(a) **35**, 36, **37** (b) **7**, 9, **11**
(c) **47**, 49, **51** (d) **85**, 86, **87**
(e) **105**, 106, **107** (f) **727**, 729, **731**
(g) **5028**, 5029, **5031**
(h) **6999**, 7000, **7001**
(i) **64645**, 64646, **64647**
(j) **23455**, 23456, **23457**

3. **Write even numbers occurring before and after the following :**
(a) **36**, 37, **38** (b) **6**, 7, **8**
(c) **48**, 50, **52** (d) **96**, 98, **100**
(e) **106**, 107, **108** (f) **318**, 320, **322**
(g) **5028**, 5030, **5032**
(h) **1998**, 2000, **2002**
(i) **64562**, 64564, **64566**
(j) **78454**, 78456, **78458**

4. Smallest even number = 2

5. Greatest 4 digit even number
= 9998

6. The smallest 2 digit odd number
= 11

7. Greatest 3 digit odd number = 999

8. Next three odd number after 2050
= 2051, 2053, 5055

9. Next three even number after 2051
= 2052, 2054, 2056

Exercise - 8.4

1. Divisible by 2 = 7826, 25286, 1112
2. Divisible by 3 = 2856, 5631
3. Divisible by 5 = 2350, 3345
4. Divisible by 6 = 1566, 5544, 40872
5. Divisible by 9 = 7884, 60309, 1782
6. Multiples of 5 = (50), (60), (120), (155)
7. Multiples of 8 = (40), (48), (64)
8. (a) 7 = 14, 21, 28 (b) 5 = 10, 15, 20
(c) 16 = 32, 48, 64

MCQs : 1. (a) **2.** (b) **3.** (c) **4.** (d)

H.C.F and L.C.M

Exercise - 9.1

1. (a) 4, 8
$4 = 2 \times 2$
$8 = 2 \times 2 \times 2$
H.C.F $= 2 \times 2 = 4$

(b) $48 = 2 \times 2 \times 2 \times 2 \times 3$
$64 = 2 \times 2 \times 2 \times 2 \times 2 \times 2$
H.C.F $= 2 \times 2 \times 2 \times 2 = 16$

(c) $16 = 2 \times 2 \times 2 \times 2$
$24 = 2 \times 2 \times 2 \times 3$
H.C.F $= 2 \times 2 \times 2 = 8$

(d) $15 = 3 \times 5$
$25 = 5 \times 5$ H.C.F $= 5$

(e) $36 = 2 \times 2 \times 3 \times 3$
$108 = 2 \times 2 \times 3 \times 3 \times 3$
H.C.F $= 2 \times 2 \times 3 \times 3 = 36$

(f) $15 = 3 \times 5$
$35 = 7 \times 5$ H.C.F $= 5$

(g) $36 = 2 \times 2 \times 3 \times 3$
$81 = 3 \times 3 \times 3 \times 3$
H.C.F $= 3 \times 3 = 9$

(h) $28 = 2 \times 2 \times 7$
$36 = 2 \times 2 \times 3 \times 3$
H.C.F $= 2 \times 2 = 4$

(i) $9 = 3 \times 3$
$72 = 3 \times 3 \times 2 \times 2 \times 2$
$18 = 3 \times 3 \times 2$
H.C.F $= 3 \times 3 = 9$

(j) $16 = 2 \times 2 \times 2 \times 2$
$24 = 2 \times 2 \times 2 \times 3$
$20 = 2 \times 2 \times 5$
H.C.F $= 2 \times 2 = 4$

(k) $56 = 2 \times 2 \times 2 \times 7$
$72 = 2 \times 2 \times 2 \times 3 \times 3$
H.C.F $= 2 \times 2 \times 2 = 8$

(l) $9 = 3 \times 3$
$72 = 3 \times 3 \times 2 \times 2 \times 2$
H.C.F $= 3 \times 3 = 9$

(m) $42 = 2 \times 3 \times 7$
$112 = 2 \times 2 \times 7 \times 2 \times 2$
H.C.F $= 2 \times 7 = 14$

(n) $48 = 2 \times 2 \times 2 \times 2 \times 3$
$60 = 2 \times 2 \times 5 \times 1 \times 3$
H.C.F $= 2 \times 2 \times 3 = 12$

(o) $14 = 2 \times 7$
$56 = 2 \times 2 \times 2 \times 7$
H.C.F $= 2 \times 7 = 14$

2. (a) 17, 35 (c) 36, 55 (f) 25, 24

Exercise - 9.2

1. (a) 72, 90

2	72
2	36
2	18
3	9
3	3
	1

2	90
3	45
3	15
5	5
	1

$72 = 2 \times 2 \times 2 \times 3 \times 3$
$90 = 2 \times 3 \times 3 \times 5$
H.C.F $= 2 \times 3 \times 3 = 18$
We can check by dividing numbers by the H.C.F
$72 \div 18 = 4$
$90 \div 18 = 5$
Hence, the answer is correct

(b) 70, 60

2	70
5	35
7	7
	1

2	60
2	30
3	15
5	5
	1

$70 = 2 \times 5 \times 7$
$60 = 2 \times 2 \times 5 \times 3$
H.C.F $= 2 \times 5 = 10$
We can check by dividing numbers by the H.C.F
$70 \div 10 = 7$
$60 \div 10 = 6$
Hence, the answer is correct

(c) 35,70

5	35
7	7
	1

2	70
5	35
7	7
	1

$35 = 5 \times 7$

$70 = 5 \times 7 \times 2$

H.C.F $= 5 \times 7 = 35$

We can check by dividing numbers by the H.C.F

$35 \div 35 = 1$

$70 \div 35 = 2$

Hence, the answer is correct

(d) 80, 60

2	80
2	40
2	20
2	10
5	5
	1

2	60
2	30
3	15
5	5
	1

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

$60 = 2 \times 2 \times 5 \times 3$

H.C.F $= 2 \times 2 \times 5 = 20$

We can check by dividing numbers by the H.C.F

$80 \div 20 = 4$

$60 \div 20 = 3$

Hence, the answer is correct

(e) 244, 120

2	244
2	122
61	61
	1

2	120
2	60
2	30
3	15
5	5
	1

$244 = 2 \times 2 \times 61$

$120 = 2 \times 2 \times 2 \times 3 \times 5$

H.C.F $= 2 \times 2 = 4$

We can check by dividing numbers by the H.C.F

$244 \div 4 = 61$

$120 \div 4 = 30$

Hence, the answer is correct

(f) 90, 70

2	90
3	45
3	15
5	5
	1

2	70
5	35
7	7
	1

$90 = 2 \times 3 \times 3 \times 5$

$70 = 2 \times 5 \times 7$

H.C.F $= 2 \times 5 = 10$

We can check by dividing numbers by the H.C.F

$90 \div 10 = 9$

$70 \div 10 = 7$

Hence, the answer is correct

2. (a) 36, 24, 48

$36 = 2 \times 2 \times 3 \times 3$

$24 = 2 \times 2 \times 2 \times 3$

$48 = 2 \times 2 \times 2 \times 2 \times 3$

H.C.F $= 2 \times 2 \times 3 = 12$

(b) 62, 60, 80

$62 = 2 \times 31$

$60 = 2 \times 2 \times 3 \times 5$

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

H.C.F $= 2$

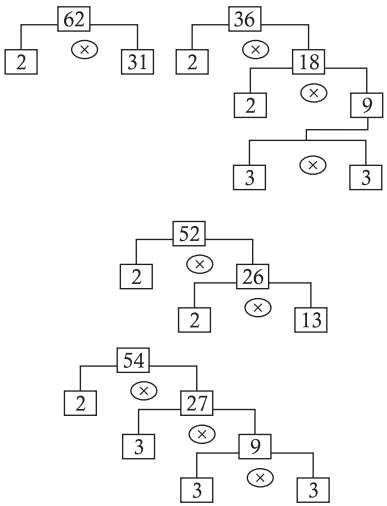
(c) 36, 55

$36 = 2 \times 2 \times 3 \times 3$

$55 = 11 \times 5$

H.C.F $= 1$

3.



Exercise - 9.3

1. (a)

2	4, 16
2	2, 8
2	1, 4
2	1, 2
	1, 1

(b)

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

(a) L.C.M = $2 \times 2 \times 2 \times 2 = 16$

(b) L.C.M = $2 \times 2 \times 2 \times 3 = 24$

(c)

2	12, 16, 18
2	6, 8, 9
2	3, 4, 9
2	3, 2, 9
3	3, 1, 9
3	1, 1, 3
	1, 1, 1

L.C.M = $2 \times 2 \times 2 \times 2 \times 3 \times 3 = 144$

(d)

5	25, 75, 50
5	5, 15, 10
3	1, 3, 2
2	1, 1, 2
	1, 1, 1

L.C.M = $5 \times 5 \times 3 \times 2 = 150$

(e)

2	12, 18, 36
2	6, 9, 18
3	3, 9, 9
3	1, 3, 3
	1, 1, 1

L.C.M = $2 \times 2 \times 3 \times 3 = 36$

(f)

2	14, 21
3	7, 21
7	7, 7
	1, 1

L.C.M = $2 \times 3 \times 7 = 42$

(g)

2	100, 75
2	50, 75
5	25, 75
3	5, 15
5	5, 5
	1, 1

L.C.M = $2 \times 2 \times 5 \times 3 \times 5 = 300$

(h)

2	16, 20
2	8, 10
2	4, 5
2	2, 5
5	1, 5
	1, 1

L.C.M = $2 \times 2 \times 2 \times 2 \times 5 = 80$

(i)

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

L.C.M = $2 \times 2 \times 3 \times 5 = 60$

(j)

2	8, 10, 12, 14
2	4, 5, 6, 7
2	2, 5, 3, 7
3	1, 5, 3, 7
5	1, 5, 1, 7
7	1, 1, 1, 7
	1, 1, 1, 1

L.C.M = $2 \times 2 \times 2 \times 3 \times 5 \times 7 = 840$

(k)

3	3, 4, 5
2	1, 4, 5
2	1, 2, 5
5	1, 1, 5
	1, 1, 1

L.C.M = $3 \times 2 \times 2 \times 5 = 60$

(l)

5	20, 25
2	4, 5
2	2, 5
5	1, 1
	1, 1

L.C.M = $5 \times 2 \times 2 \times 5 = 100$

(m)

2	16, 48
2	8, 24
2	4, 12
2	2, 6
3	1, 3
	1, 1

L.C.M = $2 \times 2 \times 2 \times 2 \times 3 = 48$

(n)

2	20, 40
2	10, 20
2	5, 10
5	5, 5
	1, 1

L.C.M = $2 \times 2 \times 2 \times 5 = 40$

(o)

2	4, 12
2	2, 6
3	1, 3
	1, 1

L.C.M = 2 × 2 × 3 = 12

Exercise - 9.4

1.

2	12, 15, 18
2	6, 15, 9
3	3, 15, 9
3	1, 5, 3
5	1, 5, 1
	1, 1, 1

L.C.M = 2 × 2 × 3 × 3 × 5 = 180
Least number is = 180

2. 9, 12, 18
9 = 3 × 3
12 = 3 × 2 × 2
18 = 3 × 3 × 2 H.C.F = 3
Required greatest number is 3

3.

2	12, 15, 18, 36
2	6, 15, 9, 18
3	3, 15, 9, 9
3	1, 5, 3, 3
5	1, 5, 1, 1
	1, 1, 1, 1

L.C.M = 2 × 2 × 3 × 3 × 5 = 180
Required least number is = 180

4.

2	12, 18, 24
2	6, 9, 12
2	3, 9, 6
3	3, 9, 3
3	1, 3, 1
	1, 1, 1

L.C.M = 2 × 2 × 2 × 3 × 3 = 72 Ltr.

5. 124 = 2 × 2 × 31
112 = 2 × 2 × 2 × 2 × 7
256 = 2 × 2 × 2 × 2 × 2 × 2 × 2 × 2
H.C.F = 2 × 2 = 4

6. 108 = 2 × 2 × 3 × 3 × 3
184 = 2 × 2 × 2 × 23
164 = 2 × 2 × 41
H.C.F = 2 × 2 = 4

7. $\text{LCM} = \frac{\text{Product of two numbers}}{\text{HCF}}$

$= \frac{24}{2} = 12$

9. 12 = 2 × 2 × 3
18 = 2 × 3 × 3
24 = 2 × 2 × 3 × 2
H.C.F = 2 × 3 = 6
Maximum length of each piece is 6 m.

10.

5	15, 20, 30
2	3, 4, 6
2	3, 2, 3
3	3, 1, 3
	1, 1, 1

5 × 2 × 2 × 3 = 60 minutes = 1 hour
They ring together at 10 + 1 = 11am

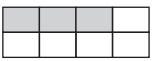
MCQs : 1. (a) **2.** (c) **3.** (b) **4.** (c)

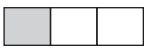
Fractional Numbers

Exercise - 10.1

1. (a) $\frac{5}{8}$ (b) $\frac{3}{8}$ (c) $\frac{1}{4}$ (d) $\frac{4}{5}$
(e) $\frac{2}{4}$ (f) $\frac{2}{3}$

2. (a) $\frac{1}{2}$  (b) $\frac{7}{8}$ 

(c) $\frac{3}{8}$ 

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

3. (a) $\frac{1}{5}$ (b) $\frac{3}{17}$ (c) $\frac{2}{9}$ (d) $\frac{4}{15}$ (e) $\frac{19}{47}$
(f) $\frac{7}{28} = \frac{1}{4}$

4. (a) $\frac{2}{15}$ Numerator / Denominator
(b) $\frac{3}{18}$ Numerator / Denominator

(c) $\frac{11}{13}$ Numerator / Denominator

(d) $\frac{19}{28}$ Numerator / Denominator

5. (a) $\frac{1}{3} \boxed{<} \frac{6}{3}$ (b) $\frac{1}{2} \boxed{>} \frac{1}{4}$

(c) $\frac{6}{8} \boxed{<} \frac{9}{8}$ (d) $\frac{1}{4} \boxed{>} \frac{1}{8}$

(e) $\frac{3}{5} \boxed{>} \frac{2}{5}$ (f) $\frac{7}{12} \boxed{>} \frac{6}{12}$

Exercise - 10.2

1. (a) $\frac{3\times2}{5\times2}=\frac{6}{10}, \frac{3\times3}{5\times3}=\frac{9}{15}, \frac{3\times4}{5\times4}=\frac{12}{20}$

(b) $\frac{2\times2}{7\times2}=\frac{4}{14}, \frac{2\times3}{7\times3}=\frac{6}{21}, \frac{2\times4}{7\times4}=\frac{8}{28}$

(c) $\frac{3\times2}{8\times2}=\frac{6}{16}, \frac{3\times3}{8\times3}=\frac{9}{24}, \frac{3\times4}{8\times4}=\frac{12}{32}$

(d) $\frac{26\times2}{40\times2}=\frac{52}{80}, \frac{26\times3}{40\times3}=\frac{78}{120}, \frac{26\times4}{40\times4}=\frac{104}{160}$

(e) $\frac{12\times2}{19\times2}=\frac{24}{38}, \frac{12\times3}{19\times3}=\frac{36}{57}, \frac{12\times4}{19\times4}=\frac{48}{76}$

(f) $\frac{13\times2}{17\times2}=\frac{26}{34}, \frac{13\times3}{17\times3}=\frac{39}{51}, \frac{13\times4}{17\times4}=\frac{52}{68}$

2. Fill in the blanks :

(a) $\frac{3\times2}{4\times2} = \frac{\boxed{6}}{8}$ (b) $\frac{3\times3}{7\times3} = \frac{9}{\boxed{21}}$

(c) $\frac{4\times3}{15\times3} = \frac{\boxed{12}}{45}$ (d) $\frac{3\times9}{9\times9} = \frac{\boxed{27}}{81}$

(e) $\frac{3\times4}{5\times4} = \frac{12}{\boxed{20}}$ (f) $\frac{5\times5}{7\times5} = \frac{\boxed{25}}{35}$

3. (a) $\frac{4}{8}=\frac{12}{24}$ (c) $\frac{12}{26}=\frac{6}{13}$

(d) $\frac{7}{36}=\frac{28}{144}$ (e) $\frac{5}{15}=\frac{1}{3}$

4. (a) $\frac{6}{8}$ (b) $\frac{15}{20}$ (c) $\frac{12}{16}$ (d) $\frac{15}{20}$

5. (a) $\frac{4}{7}=\frac{8}{14}=\frac{40}{70}\neq\frac{320}{490}$

(b) $\frac{5}{18}=\frac{40}{144}=\frac{35}{126}\neq\frac{10}{18}$

Exercise - 10.3

1. (a) $\frac{\cancel{14}}{\cancel{21}} = \frac{2}{3}$ (b) $\frac{\cancel{42}}{\cancel{46}} = \frac{21}{23}$

(c) $\frac{\cancel{27}}{\cancel{36}} = \frac{3}{4}$ (d) $\frac{\cancel{10}}{\cancel{18}} = \frac{5}{9}$

(e) $\frac{\cancel{40}}{\cancel{144}} = \frac{5}{18}$ (f) $\frac{\cancel{35}}{\cancel{120}} = \frac{7}{24}$

2. (a) 6 hours is $\frac{\cancel{6}}{\cancel{24}} = \frac{1}{4}$ of a day. (24)

(b) 3 months is $\frac{\cancel{3}}{\cancel{12}} = \frac{1}{4}$ of one year (12)

(c) 30 sec. is $\frac{\cancel{30}}{\cancel{120}} = \frac{1}{4}$ of two min. (120)

(d) 60 paise is $\frac{\cancel{60}}{\cancel{100}} = \frac{3}{5}$ of a rupees (100)

(e) 400 grams is $\frac{\cancel{400}}{\cancel{1000}} = \frac{2}{5}$ of a kilogram (100 paise)

(f) 250 grams is $\frac{\cancel{250}}{\cancel{1000}} = \frac{1}{4}$ of a kilogram

Exercise - 10.4

1. $\frac{1}{100}, \frac{1}{7}, \frac{1}{25}$

2. Do yourself

3. Like fractions

(a) $\frac{3}{7}, \frac{4}{7}, \frac{2}{7}, \frac{1}{7}, \frac{5}{7}$

(b) $\frac{1}{9}, \frac{3}{9}, \frac{2}{9}, \frac{5}{9}, \frac{4}{9}$

Unlike fractions

(c) $\frac{3}{1}, \frac{3}{4}, \frac{3}{7}, \frac{3}{5}, \frac{3}{9}$

(d) $\frac{2}{6}, \frac{2}{3}, \frac{4}{1}, \frac{2}{5}, \frac{3}{4}$

4. (a) $\frac{9}{4} = 2\frac{1}{4}$ (b) $\frac{3}{2} = 1\frac{1}{2}$

(c) $\frac{11}{3} = 3\frac{2}{3}$

5. (a) $2\frac{1}{5} = \frac{5\times2+1}{5} = \frac{11}{5}$

(b) $3\frac{2}{4}=\frac{4\times3+2}{4}=\frac{14}{4}$

(c) $2\frac{5}{7}=\frac{2\times7+5}{7}=\frac{19}{7}$

(d) $2\frac{4}{5}=\frac{2\times5+4}{5}=\frac{14}{5}$

(e) $2\frac{4}{9}=\frac{2\times9+4}{9}=\frac{22}{9}$

(f) $2\frac{7}{8}=\frac{2\times8+7}{8}=\frac{23}{8}$

6. (a) $\frac{4}{25}$ Reciprocal $=\frac{25}{4}$

(b) $\frac{33}{12}$ Reciprocal $=\frac{12}{33}$

(c) $\frac{51}{100}$ Reciprocal $=\frac{100}{51}$

(d) $\frac{72}{71}$ Reciprocal $=\frac{71}{72}$

(e) $\frac{7}{9}$ Reciprocal $=\frac{9}{7}$

(f) $\frac{99}{121}$ Reciprocal $=\frac{121}{99}$

Exercise - 10.5

1. (a) $\frac{2}{4},\frac{2}{8},\frac{4}{5},\frac{3}{4}$

L.C.M

2	4, 8, 5, 4
2	2, 4, 5, 2
2	1, 2, 5, 1
5	1, 1, 5, 1
	1, 1, 1, 1

$2\times2\times2\times5=40$

$\frac{2}{4}\rightarrow 40\div4=10=\frac{2\times10}{4\times10}=\frac{20}{40}$

$\frac{2}{8}\rightarrow 40\div8=5=\frac{2\times5}{8\times5}=\frac{10}{40}$

$\frac{4}{5}\rightarrow 40\div5=8=\frac{4\times8}{5\times8}=\frac{32}{40}$

$\frac{3}{4}\rightarrow 40\div4=10=\frac{3\times10}{4\times10}=\frac{30}{40}$

Ascending order $\rightarrow \frac{10}{40},\frac{20}{40},\frac{30}{40},\frac{32}{40}$

$\frac{2}{8},\frac{2}{4},\frac{3}{4},\frac{4}{5}$

(b) $\frac{3}{6},\frac{1}{4},\frac{2}{3},\frac{4}{5}$

L.C.M

2	6, 4, 3, 5
2	3, 2, 3, 5
3	3, 1, 3, 5
5	1, 1, 1, 5
	1, 1, 1, 1

$2\times2\times3\times5=60$

$\frac{3}{6}\rightarrow 60\div6=10=\frac{3\times10}{6\times10}=\frac{30}{60}$

$\frac{1}{4}\rightarrow 60\div4=15=\frac{1\times15}{4\times15}=\frac{15}{60}$

$\frac{2}{3}\rightarrow 60\div3=20=\frac{2\times20}{3\times20}=\frac{40}{60}$

$\frac{4}{5}\rightarrow 60\div5=12=\frac{4\times12}{5\times12}=\frac{48}{60}$

Ascending order $\rightarrow \frac{15}{60},\frac{30}{60},\frac{40}{60},\frac{48}{60}$

$\frac{1}{4},\frac{3}{6},\frac{2}{3},\frac{4}{5}$

(c) $\frac{3}{7},\frac{2}{6},\frac{1}{9},\frac{7}{18}$

L.C.M

2	7, 6, 9, 18
3	7, 3, 9, 9
3	7, 1, 3, 3
7	7, 1, 1, 1
	1, 1, 1, 1

$2\times3\times3\times7=126$

$\frac{3}{7}\rightarrow 126\div7=18=\frac{3\times18}{7\times18}=\frac{54}{126}$

$\frac{2}{6}\rightarrow 126\div6=21=\frac{2\times21}{6\times21}=\frac{42}{126}$

$\frac{1}{9}\rightarrow 126\div9=14=\frac{1\times14}{9\times14}=\frac{14}{126}$

$\frac{7}{18}\rightarrow 126\div18=7=\frac{7\times7}{18\times7}=\frac{49}{126}$

Descending order $\rightarrow \frac{14}{126},\frac{42}{126},\frac{49}{126},\frac{54}{126}$

$\frac{1}{9},\frac{2}{6},\frac{7}{18},\frac{3}{7}$

2. (a) $\frac{1}{4}, \frac{1}{3}, \frac{3}{6}, \frac{3}{15}$

L.C.M

2	4, 3, 6, 15
2	2, 3, 3, 15
3	1, 3, 3, 15
5	1, 1, 1, 5
	1, 1, 1, 1

$2 \times 2 \times 3 \times 5 = 60$

$\frac{1}{4} \rightarrow 60 \div 4 = 15 = \frac{1 \times 15}{4 \times 15} = \frac{15}{60}$

$\frac{1}{3} \rightarrow 60 \div 3 = 20 = \frac{1 \times 20}{3 \times 20} = \frac{20}{60}$

$\frac{3}{6} \rightarrow 60 \div 6 = 10 = \frac{3 \times 10}{6 \times 10} = \frac{30}{60}$

$\frac{3}{15} \rightarrow 60 \div 15 = 4 = \frac{3 \times 4}{15 \times 4} = \frac{12}{60}$

Ascending order $\rightarrow \frac{30}{60}, \frac{20}{60}, \frac{15}{60}, \frac{12}{60}$

$\frac{3}{6}, \frac{1}{3}, \frac{1}{4}, \frac{3}{15}$

(b) $\frac{1}{8}, \frac{3}{5}, \frac{4}{18}, \frac{9}{16}$

L.C.M

2	8, 5, 18, 16
2	4, 5, 9, 8
2	2, 5, 9, 4
2	1, 5, 9, 2
3	1, 5, 9, 1
3	1, 5, 3, 1
5	1, 5, 1, 1
	1, 1, 1, 1

$2 \times 2 \times 2 \times 2 \times 3 \times 3 \times 5 = 720$

$\frac{1}{8} \rightarrow 720 \div 8 = 90 = \frac{1 \times 90}{8 \times 90} = \frac{90}{720}$

$\frac{3}{5} \rightarrow 720 \div 5 = 144 = \frac{3 \times 144}{5 \times 144} = \frac{432}{720}$

$\frac{4}{18} \rightarrow 720 \div 18 = 40 = \frac{4 \times 40}{18 \times 40} = \frac{160}{720}$

$\frac{9}{16} \rightarrow 720 \div 16 = 45 = \frac{9 \times 45}{16 \times 45} = \frac{405}{720}$

Descending order

$\rightarrow \frac{432}{720}, \frac{405}{720}, \frac{160}{720}, \frac{90}{720}$

$\frac{3}{5}, \frac{9}{16}, \frac{4}{18}, \frac{1}{8}$

(c) $\frac{1}{6}, \frac{3}{4}, \frac{5}{8}, \frac{2}{4}$

L.C.M

2	6, 4, 8, 4
2	3, 2, 4, 2
2	3, 1, 2, 1
3	3, 1, 1, 1
	1, 1, 1, 1

$2 \times 2 \times 2 \times 3 = 24$

$\frac{1}{6} \rightarrow 24 \div 6 = 4 = \frac{1 \times 4}{6 \times 4} = \frac{4}{24}$

$\frac{3}{4} \rightarrow 24 \div 4 = 6 = \frac{3 \times 6}{4 \times 6} = \frac{18}{24}$

$\frac{5}{8} \rightarrow 24 \div 8 = 3 = \frac{5 \times 3}{8 \times 3} = \frac{15}{24}$

$\frac{2}{4} \rightarrow 24 \div 4 = 6 = \frac{2 \times 6}{4 \times 6} = \frac{12}{24}$

Descending order $\rightarrow \frac{18}{24}, \frac{15}{24}, \frac{12}{24}, \frac{4}{24}$

$\frac{3}{4}, \frac{5}{8}, \frac{2}{4}, \frac{1}{6}$

3. (a) $\frac{3}{5} \boxed{>} \frac{1}{5}$ (b) $\frac{2}{9} \boxed{<} \frac{5}{9}$

(c) $\frac{9}{17}, \frac{9}{15} = \frac{9 \times 15}{17 \times 15}, \frac{9 \times 17}{15 \times 17}$

$\frac{135}{255} < \frac{153}{255}$ $\frac{9}{17} \boxed{<} \frac{9}{15}$

MCQs : 1. (a) $\frac{26}{52} = \frac{1}{2}$

2. (c) $\frac{3}{13}$ E n t e r t a i n m e n t
1 2 3 4 5 6 7 8 9 10 11 12 13
1 2 3

3. (d) $\frac{5}{7} \boxed{>} \frac{5}{12}$

Addition and Subtraction of Fractions

Exercise - 11.1

1. $\frac{1}{3} + \frac{1}{7}$

L.C.M of 3, 7 = 21 $= \frac{7 + 3}{21} = \frac{10}{21}$

2.

$\frac{1}{2}+\frac{3}{4}$

L.C.M of $2, 4 = 4$

$=\frac{2+3}{4}=\frac{5}{4}$

3. $\frac{3}{5}+\frac{1}{6}$

L.C.M of $5, 6 = 30$

$=\frac{18+5}{30}=\frac{23}{30}$

4. $\frac{1}{2}+\frac{12}{26}$

L.C.M of $2, 26 = 26$

$=\frac{13+12}{26}=\frac{25}{26}$

5. $\frac{1}{3}+\frac{4}{15}+\frac{5}{12}$

L.C.M of $3, 15, 12 = 60$

$=\frac{20+16+25}{60}=\frac{61}{60}$

6. $\frac{1}{3}+\frac{1}{2}+\frac{1}{4}$

L.C.M of $3, 2, 4 = 12$

$=\frac{4+6+3}{12}=\frac{13}{12}$

7. $\frac{1}{5}+\frac{1}{10}$

L.C.M of $5, 10 = 10$

$=\frac{2+1}{10}=\frac{3}{10}$

8. $\frac{3}{6}+\frac{2}{6}$

L.C.M of $6, 6 = 6$

$=\frac{3+2}{6}=\frac{5}{6}$

9. $\frac{2}{7}+\frac{1}{7}+\frac{3}{7}$

L.C.M of $7, 7, 7 = 7$

$=\frac{2+1+3}{7}=\frac{6}{7}$

10. $\frac{5}{18}+\frac{7}{18}$ L.C.M of $18, 18 = 18$

$=\frac{5+7}{18}=\frac{12}{18}=\frac{2}{3}$

11. $\frac{1}{2}+\frac{1}{9}+\frac{1}{6}$

L.C.M of $2, 9, 6 = 18$

$=\frac{9+2+3}{18}=\frac{14}{18}=\frac{7}{9}$

12. $\frac{3}{10}+\frac{7}{10}$

L.C.M of $10, 10 = 10$

$=\frac{3+7}{10}=\frac{10}{10}=1$

13. $\frac{1}{15}+\frac{30}{12}+\frac{5}{18}$

L.C.M of $15, 12, 18 = 180$

$=\frac{12+450+50}{180}$

$=\frac{512}{180}=2\frac{38}{45}$

14. $\frac{2}{3}+\frac{4}{9}$

L.C.M of $3, 9, = 9$

$=\frac{6+4}{9}=\frac{10}{9}=1\frac{1}{9}$

15. $\frac{8}{9}+\frac{3}{9}+\frac{1}{9}$

L.C.M of $9, 9, 9 = 9$

$=\frac{8+3+1}{9}=\frac{12}{9}$

$=\frac{4}{3}=1\frac{1}{3}$

16. $\frac{10}{25}+\frac{12}{25}$

L.C.M of $25, 25 = 25$

$=\frac{10+12}{25}=\frac{22}{25}$

17. $\frac{5}{27}+\frac{4}{27}+\frac{3}{27}$

L.C.M of $27, 27, 27 = 27$

$=\frac{5+4+3}{27}=\frac{12}{27}=\frac{4}{9}$

18. $\frac{7}{15}+\frac{4}{15}$

L.C.M of $15, 15 = 15$

$=\frac{7+4}{15}=\frac{11}{15}$

19. $\frac{9}{16} + \frac{3}{4}$

L.C.M of $16, 4 = 16$

$= \frac{9 + 12}{16} = \frac{21}{16} = 1\frac{5}{16}$

20. $\frac{5}{66} + \frac{4}{66}$

L.C.M of $66, 66 = 66$

$= \frac{5 + 4}{66} = \frac{9}{66}$

21. $1\frac{1}{7} + 2\frac{3}{7}$

$= \frac{8}{7} + \frac{17}{7}$

L.C.M of $7, 7 = 7$

$= \frac{8 + 17}{7} = \frac{25}{7} = 3\frac{4}{7}$

22. $1\frac{1}{2} + 3\frac{4}{5} + 4\frac{1}{6}$

$= \frac{3}{2} + \frac{19}{5} + \frac{25}{6}$

L.C.M of $2, 5, 6 = 30$

$= \frac{45 + 114 + 125}{30} = \frac{284}{30} = \frac{142}{15}$

$= 9\frac{7}{15}$

23. $\frac{2}{9} + \frac{1}{3}$

L.C.M of $9, 3 = 9$

$= \frac{2 + 3}{9} = \frac{5}{9}$

24. $3\frac{1}{6} + 2\frac{7}{18} + 5\frac{2}{9}$

$= \frac{19}{6} + \frac{43}{18} + \frac{47}{9}$

L.C.M of $6, 18, 9 = 18$

$= \frac{57 + 43 + 94}{18}$

$= \frac{194}{18} = \frac{97}{9} = 10\frac{7}{9}$

25. $16\frac{1}{11} + 3\frac{53}{60} + 8\frac{7}{12}$

$= \frac{177}{11} + \frac{233}{60} + \frac{103}{12}$

L.C.M of $11, 60, 12 = 660$

$= \frac{10620 + 2563 + 5665}{660} = \frac{18848}{660}$

$= \frac{9424}{330} = \frac{4712}{165} = 28\frac{92}{165}$

26. $1\frac{5}{7} + 2\frac{6}{12}$

$= \frac{12}{7} + \frac{30}{12}$

L.C.M of $7, 12 = 84$

$= \frac{144 + 210}{84} = \frac{354}{84} = \frac{172}{84} = \frac{59}{14}$

$= 4\frac{3}{14}$

27. $5\frac{6}{15} + 6\frac{13}{24}$

$= \frac{81}{15} + \frac{157}{24}$

L.C.M of $15, 24 = 120$

$= \frac{648 + 785}{120} = \frac{1433}{120} = 11\frac{113}{120}$

28. $3\frac{2}{4} + 5\frac{3}{5}$

$= \frac{14}{4} + \frac{28}{5}$

L.C.M of $4, 5 = 20$

$= \frac{70 + 112}{20}$

$= \frac{182}{20} = \frac{91}{10} = 9\frac{1}{10}$

29. $2\frac{4}{5} + 3\frac{1}{4}$

$= \frac{14}{5} + \frac{13}{4}$

L.C.M of $5, 4 = 20$

$= \frac{56 + 65}{20} = \frac{121}{20} = 6\frac{1}{20}$

30. $3\frac{1}{12} + 1\frac{1}{12} + 1\frac{1}{12}$

$= \frac{37}{12} + \frac{13}{12} + \frac{13}{12}$

L.C.M of $12, 12, 12 = 12$

$= \frac{37 + 13 + 13}{12} = \frac{63}{12} = \frac{21}{4} = 5\frac{1}{4}$

31. $\frac{1}{6} + 3\frac{2}{9}$

$= \frac{1}{6} + \frac{29}{9}$

L.C.M of 6, 9 = 18

$= \frac{3 + 58}{18} = \frac{61}{18} = 3\frac{7}{18}$

32. $7\frac{5}{6} + 6\frac{13}{24} + 5\frac{1}{16}$

$= \frac{47}{6} + \frac{157}{24} + \frac{81}{16}$

L.C.M of 6, 24, 16 = 48

$= \frac{376 + 314 + 243}{48}$

$= \frac{933}{48} = \frac{311}{16} = 19\frac{7}{16}$

33. $2\frac{10}{17} + 3\frac{11}{17}$

$= \frac{44}{17} + \frac{62}{17}$

L.C.M of 17, 17 = 17

$= \frac{44 + 62}{17} = \frac{106}{17} = 6\frac{4}{17}$

34. $5\frac{5}{7} + \frac{15}{18}$

$= \frac{40}{7} + \frac{23}{18}$

L.C.M of 7, 18 = 126

$= \frac{720 + 161}{126} = \frac{881}{126} = 6\frac{125}{126}$

Exercise - 11.2

1. $\frac{9}{17} - \frac{2}{17}$

$= \frac{9 - 2}{17} = \frac{7}{17}$

2. $\frac{17}{18} - \frac{6}{18}$

$= \frac{17 - 6}{18} = \frac{11}{18}$

3. $\frac{15}{23} - \frac{9}{23}$

$= \frac{15 - 9}{23} = \frac{6}{23}$

4. $\frac{9}{14} - \frac{3}{14}$

$= \frac{9 - 3}{14} = \frac{6}{14} = \frac{3}{7}$

5. $\frac{13}{27} - \frac{12}{27}$

$= \frac{13 - 12}{27} = \frac{1}{27}$

6. $\frac{23}{29} - \frac{20}{29}$

$= \frac{23 - 20}{29} = \frac{3}{29}$

7. $\frac{15}{28} - \frac{5}{28}$

$= \frac{15 - 5}{25} = \frac{10}{28} = \frac{5}{14}$

8. $\frac{19}{30} - \frac{16}{30}$

$= \frac{19 - 16}{30} = \frac{3}{30} = \frac{1}{10}$

9. $\frac{6}{41} - \frac{3}{41}$

$= \frac{6 - 3}{41} = \frac{3}{41}$

10. $\frac{12}{19} - \frac{11}{19}$

$= \frac{12 - 11}{19} = \frac{1}{19}$

11. $\frac{5}{9} - \frac{3}{9}$

$= \frac{5 - 3}{9} = \frac{2}{9}$

12. $\frac{19}{26} - \frac{15}{26}$

$= \frac{19 - 15}{26} = \frac{4}{26} = \frac{2}{13}$

13. $\frac{6}{11} - \frac{5}{11}$

$= \frac{6 - 5}{11} = \frac{1}{11}$

14. $\frac{11}{10} - \frac{7}{10}$

$= \frac{11 - 7}{10} = \frac{4}{10} = \frac{2}{5}$

15. $\frac{23}{25} - \frac{11}{25}$

$= \frac{23 - 11}{25} = \frac{12}{25}$

16. $\frac{27}{57} - \frac{13}{57}$

$= \frac{27 - 13}{57} = \frac{14}{57}$

Exercise - 11.3

1. $\frac{1}{4} - \frac{1}{5}$

L.C.M of 4, 5 = 20

$= \frac{5 - 4}{20} = \frac{1}{20}$

2. $\frac{7}{16} - \frac{3}{24}$

L.C.M of 16, 24 = 18

$= \frac{21 - 6}{48} = \frac{15}{48} = \frac{5}{16}$

3. $\frac{1}{5} - \frac{1}{6}$

L.C.M of 5, 6 = 30

$= \frac{6 - 5}{30} = \frac{1}{30}$

4. $\frac{5}{12} - \frac{2}{9}$

L.C.M of 12, 9 = 36

$= \frac{15 - 8}{36} = \frac{7}{36}$

5. $\frac{2}{9} - \frac{2}{11}$ L.C.M of $9, 11 = 99$

$= \frac{22 - 18}{99} = \frac{4}{99}$

6. $\frac{23}{40} - \frac{1}{8}$ L.C.M of $40, 8 = 40$

$= \frac{23 - 5}{40} = \frac{18}{40} = \frac{9}{20}$

7. $\frac{3}{4} - \frac{1}{8}$ L.C.M of $4, 8 = 8$

$= \frac{6 - 1}{8} = \frac{5}{8}$

8. $\frac{7}{9} - \frac{11}{15}$ L.C.M of $9, 15 = 45$

$= \frac{35 - 33}{45} = \frac{2}{45}$

9. $\frac{9}{10} - \frac{3}{5}$ L.C.M of $10, 5 = 10$

$= \frac{9 - 6}{10} = \frac{3}{10}$

10. $\frac{2}{10} - \frac{2}{15}$ L.C.M of $10, 15 = 30$

$= \frac{6 - 4}{30} = \frac{2}{30} = \frac{1}{15}$

11. $\frac{8}{15} - \frac{6}{20}$ L.C.M of $15, 20 = 60$

$= \frac{32 - 18}{60} = \frac{14}{60} = \frac{7}{30}$

12. $\frac{1}{2} - \frac{1}{4}$ L.C.M of $2, 4 = 4$

$= \frac{2 - 1}{4} = \frac{1}{4}$

13. $\frac{9}{10} - \frac{3}{5}$ L.C.M of $10, 5 = 10$

$= \frac{9 - 6}{10} = \frac{3}{10}$

14. $\frac{11}{36} - \frac{1}{9}$ L.C.M of $36, 9 = 36$

$= \frac{11 - 4}{36} = \frac{7}{36}$

15. $\frac{7}{16} - \frac{2}{24}$ L.C.M of $16, 24 = 48$

$= \frac{21 - 4}{48} = \frac{17}{48}$

16. $\frac{14}{18} - \frac{1}{14}$ L.C.M of $18, 14 = 126$

$= \frac{98 - 9}{126} = \frac{89}{126}$

Exercise - 11.4

1. $8\frac{10}{19} - 1\frac{15}{19}$

$= \frac{162}{19} - \frac{24}{19}$

L.C.M of $19, 19 = 19$

$= \frac{162 - 24}{19} = \frac{138}{19} = 7\frac{5}{19}$

2. $4\frac{5}{18} - 1\frac{2}{9}$

L.C.M of $18, 9 = 18$

$= \frac{77}{18} - \frac{11}{9}$

$= \frac{77 - 22}{18} = \frac{55}{18} = 3\frac{1}{18}$

3. $5\frac{1}{2} - 1\frac{1}{2}$

L.C.M of $2, 2 = 2$

$= \frac{11}{2} - \frac{3}{2}$

$= \frac{11 - 3}{2} = \frac{8}{2} = 4$

4. $12\frac{3}{17} - 10\frac{2}{17}$

L.C.M of $17, 17 = 17$

$= \frac{207}{17} - \frac{172}{17}$

$= \frac{207 - 172}{17} = \frac{35}{17} = 2\frac{1}{17}$

5. $6\frac{3}{4} - 4\frac{2}{5}$

L.C.M of $4, 5 = 20$

$= \frac{27}{4} - \frac{22}{5}$

$= \frac{135 - 88}{20} = \frac{47}{20} = 2\frac{7}{20}$

6. $1\frac{1}{6} - 1\frac{1}{9}$

$= \frac{7}{6} - \frac{10}{9} = \frac{21 - 20}{18}$

$= \frac{1}{18}$ L.C.M $= 2 \times 3 \times 3 = 18$

2	6, 9
3	3, 9
3	1, 3
	1, 1

7. $6\frac{1}{3} - 3\frac{2}{10}$

$= \frac{19}{3} - \frac{32}{10}$

$= \frac{190 - 96}{30} = \frac{94}{30} = \frac{47}{15} = 3\frac{2}{15}$

L.C.M $= 2 \times 3 \times 5 = 30$

2	3, 10
3	3, 5
5	1, 5
	1, 1

8. $3\frac{1}{6} - 1\frac{2}{3}$

$= \frac{19}{6} - \frac{5}{3}$

$= \frac{19 - 10}{6} = \frac{9}{6} = \frac{3}{2} = 1\frac{1}{2}$

9. $5\frac{4}{9} - 2\frac{3}{4}$

$= \frac{49}{9} - \frac{11}{4}$

$= \frac{196 - 99}{36} = \frac{97}{36} = 2\frac{25}{36}$

10. $12 - 4\frac{3}{7}$

$= \frac{12}{1} - \frac{31}{7}$

$= \frac{84 - 31}{7} = \frac{53}{7} = 7\frac{4}{7}$

11. $1 - \frac{1}{3}$

$= \frac{1}{1} - \frac{1}{3}$

$= \frac{3 - 1}{3} = \frac{2}{3}$

12. $3\frac{1}{5} - 0$

$= \frac{16}{5} - 0$

$= \frac{16}{5} = 3\frac{1}{5}$

13. $4\frac{1}{2} - 3\frac{1}{2}$

$= \frac{9}{2} - \frac{7}{2}$

$= \frac{9 - 7}{2} = \frac{2}{2} = 1$

14. $6\frac{11}{12} - 1\frac{11}{24}$

$= \frac{83}{12} - \frac{35}{24}$

$= \frac{166 - 35}{24} = \frac{131}{24} = 5\frac{11}{24}$

L.C.M $= 2 \times 2 \times 2 \times 3 = 24$

2	12, 24
2	6, 12
2	3, 6
3	3, 3
	1, 1

15. $5\frac{1}{6} - 3\frac{3}{4}$

$= \frac{31}{6} - \frac{15}{4}$

$= \frac{62 - 45}{12} = \frac{17}{12}$

$= 1\frac{5}{12}$

16. $2\frac{1}{9} - 1\frac{2}{11}$

$= \frac{19}{9} - \frac{13}{11}$

$= \frac{209 - 117}{99}$

$= \frac{92}{99}$

Exercise - 11.5

1. $\frac{7}{8} + \frac{1}{2} - \frac{3}{4}$

$= \frac{7 + 4 - 6}{8}$

$= \frac{11 - 6}{8} = \frac{5}{8}$

L.C.M $= 2 \times 2 \times 2 = 8$

2	8, 2, 4
2	4, 1, 2
2	2, 1, 1
	1, 1, 1

2. $\frac{2}{3} - \frac{1}{6} + \frac{5}{12}$

$= \frac{8 - 2 + 5}{12}$

$= \frac{13 - 2}{12} = \frac{11}{12}$

L.C.M $= 3 \times 2 \times 2 = 12$

3	3, 6, 12
2	1, 2, 4
2	1, 1, 2
	1, 1, 1

3. $\frac{13}{16} - \frac{1}{2} - \frac{1}{8}$

$= \frac{13 - 8 - 2}{16}$

$= \frac{13 - 10}{16} = \frac{3}{16}$

L.C.M $= 2 \times 2 \times 2 \times 2 = 16$

2	16, 2, 8
2	8, 1, 4
2	4, 1, 2
2	2, 1, 1
	1, 1, 1

4. $\frac{11}{12} - \frac{1}{3} + \frac{1}{6}$

$= \frac{11 - 4 + 2}{12}$

$= \frac{13 - 4}{12} = \frac{9}{12} = \frac{3}{4}$

L.C.M $= 3 \times 2 \times 2 = 12$

3	12, 3, 6
2	4, 1, 2
2	2, 1, 1
	1, 1, 1

5. $\frac{2}{3} + \frac{5}{8} - \frac{3}{4}$

$= \frac{16 + 15 - 18}{24}$

$= \frac{31 - 18}{24} = \frac{13}{24}$

2	3, 8, 4
2	3, 4, 2
2	3, 2, 1
3	3, 1, 1
	1, 1, 1

L.C.M = $2 \times 2 \times 2 \times 3 = 24$

6. $\frac{1}{4} - \frac{5}{12} + \frac{7}{8}$

$= \frac{6 - 10 + 21}{24}$

$= \frac{27 - 10}{24} = \frac{17}{24}$

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

L.C.M = $2 \times 2 \times 2 \times 3 = 24$

7. $\frac{1}{3} + \frac{1}{2} - \frac{3}{4}$

$= \frac{4 + 6 - 9}{12}$

$= \frac{10 - 9}{12} = \frac{1}{12}$

2	3, 2, 4
2	3, 1, 2
3	3, 1, 1
	1, 1, 1

L.C.M = $2 \times 2 \times 3 = 12$

8. $\frac{2}{3} - \frac{1}{6} + \frac{5}{12}$

$= \frac{8 - 2 + 5}{12}$

$= \frac{13 - 2}{12} = \frac{11}{12}$

3	3, 6, 12
2	1, 2, 4
2	1, 1, 2
	1, 1, 1

L.C.M = $3 \times 2 \times 2 = 12$

9. $2\frac{1}{2} + 1\frac{3}{4} - 2\frac{3}{8}$

$= \frac{5}{2} + \frac{7}{4} - \frac{19}{8}$

$= \frac{20 + 14 - 19}{8}$

$= \frac{34 - 19}{8} = \frac{15}{8} = 1\frac{7}{8}$

2	2, 4, 8
2	1, 2, 4
2	1, 1, 2
	1, 1, 1

L.C.M = $2 \times 2 \times 2 = 8$

10. $3\frac{1}{3} + 2\frac{1}{6} - 1\frac{7}{12}$

$= \frac{10}{3} + \frac{13}{6} - \frac{19}{12}$

$= \frac{40 + 26 - 19}{12}$

$= \frac{66 - 19}{12} = \frac{47}{12}$

$= 3\frac{11}{12}$

3	3, 6, 12
2	1, 2, 4
2	1, 1, 2
	1, 1, 1

L.C.M = $3 \times 2 \times 2 = 12$

11. $1\frac{1}{5} + 2\frac{3}{10} - 1\frac{1}{15}$

$= \frac{6}{5} + \frac{23}{10} - \frac{16}{15}$

$= \frac{36 + 69 - 32}{30}$

$= \frac{105 - 32}{30} = \frac{73}{30}$

$= 2\frac{13}{30}$ L.C.M = $5 \times 2 \times 3 = 30$

5	5, 10, 15
2	1, 2, 3
3	1, 1, 3
	1, 1, 1

12. $2\frac{3}{8} + 1\frac{2}{3} - 2\frac{7}{12}$

$= \frac{19}{8} + \frac{5}{3} - \frac{31}{12}$

$= \frac{57 + 40 - 62}{24}$

$= \frac{97 - 62}{24} = \frac{35}{24} = 1\frac{11}{24}$

L.C.M = $2 \times 2 \times 2 \times 3 = 24$

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

13. $7\frac{1}{8} - 3\frac{3}{4} - 1\frac{1}{2} + 2\frac{5}{16}$

$= \frac{57}{8} - \frac{15}{4} - \frac{3}{2} + \frac{37}{16}$

$= \frac{114 - 60 - 24 + 37}{16} = \frac{151 - 84}{16}$

$= \frac{67}{16} = 4\frac{3}{16}$

L.C.M = $2 \times 2 \times 2 \times 2 = 16$

2	8, 4, 2, 16
2	4, 2, 1, 8
2	2, 1, 1, 4
2	1, 1, 1, 2
	1, 1, 1, 1

15. $6\frac{1}{3} - 2\frac{1}{6} - 1\frac{5}{12} + 3\frac{7}{24}$

$= \frac{19}{3} - \frac{13}{6} - \frac{17}{12} + \frac{79}{24}$

$= \frac{152 - 52 - 34 + 79}{24}$

$= \frac{231 - 86}{24} = \frac{145}{24}$

$= 6\frac{1}{24}$

L.C.M = $2 \times 2 \times 2 \times 3 = 24$

2	3, 6, 12, 24
2	3, 3, 6, 12
2	3, 3, 3, 6
3	3, 3, 3, 3
	1, 1, 1, 1

Exercise - 11.6

1. A container contains oil $= \frac{1}{4}$ ltr

Other container oil $= \frac{3}{5}$ litre

Total oil $= \frac{1}{4} + \frac{3}{5} = \frac{5+12}{20}$

$= \frac{17}{20}$ litre

2. A bag contains apples $= 10\frac{2}{5}$ kg

A bog contains oranges $= 10\frac{2}{5}$ kg

Total weight $= 10\frac{2}{5} + 10\frac{2}{5}$

$= \frac{52}{5} + \frac{52}{5}$

$= \frac{104}{5} = 20\frac{4}{5}$ kg

3. A basket contains veg. $= 5\frac{5}{7}$ kg

Used vegetables $= 2\frac{11}{12}$ kg

Remaining $= 5\frac{5}{7} - 2\frac{11}{12}$

$= \frac{40}{7} - \frac{35}{12}$

$= \frac{480-245}{84} = \frac{235}{84} = 2\frac{67}{84}$ kg

4. A basket contains veg. $= 5\frac{1}{7}$ kg

Used vegetables $= 2\frac{1}{9}$ metre

Remaining vegtables $= 5\frac{1}{7} - 2\frac{1}{9}$

$= \frac{36}{7} - \frac{19}{9}$

$= \frac{324-133}{63}$

$= \frac{191}{63} = 3\frac{2}{63}$

5. Length of cloths $= 10\frac{3}{4}$ metre

Used cloth $= 2\frac{2}{5}$ metre

Left cloth $= 10\frac{3}{4} - 2\frac{2}{5}$

$= \frac{43}{4} - \frac{12}{5}$

$= \frac{215-48}{20}$

$= \frac{167}{20} = 8\frac{7}{20}$ m

6. Shopkeeper bought wheat = 10 kg

Shopkeeper bought rice $= 10\frac{2}{3}$

Shopkeeper bought pulse $= 5\frac{3}{4}$

Total grain $= 10 + 10\frac{2}{3} + 5\frac{3}{4}$

$= \frac{10}{1} + \frac{32}{3} + \frac{23}{4}$

$= \frac{120+128+69}{12}$

$= \frac{317}{12} = 26\frac{5}{12}$ kg

7. Ravi had total money = ₹100

He spent = $₹10\frac{2}{5}$

Left money $= 100 - 10\frac{2}{5}$

$= \frac{100}{1} - \frac{52}{5}$

$= \frac{500-52}{5} = \frac{448}{5}$

$= ₹89\frac{3}{5}$

8. Suman eats of chocolate $= \frac{1}{4}$ part

Left chocolate $= 1 - \frac{1}{4}$

$= \frac{4-1}{4} = \frac{3}{4}$

9. Capacity of a tin $= 3\frac{2}{5}$ litre

Capacity of other tin $= 5\frac{3}{4}$ litre

$= 3\frac{2}{5} + 5\frac{3}{4}$

Total $= \frac{17}{5} + \frac{23}{4}$

$= \frac{68 + 115}{20}$

$= \frac{183}{20} = 9\frac{3}{20}$ litre

10. Shikha bought tomato $= 3\frac{1}{2}$ kg

Onion $= \frac{2}{5}$ kg

Green chilli $= \frac{1}{3}$ kg

Lemon = $= 1\frac{1}{2}$ kg

Total vegetables $= 3\frac{1}{2} + \frac{2}{5} + \frac{1}{3} + 1\frac{1}{2}$

$= \frac{7}{2} + \frac{2}{5} + \frac{1}{3} + \frac{3}{2}$

$= \frac{105 + 12 + 10 + 45}{30}$

$= \frac{172}{30} = 5\frac{22}{30}$ kg

11. A man travelled a distance = $50\frac{12}{9}$ km

Distance travelled by scooter = $10\frac{2}{5}$ km

Dis. travelled by car $= 25\frac{3}{4}$ km

Remaining dis. $= 50\frac{12}{9} - \left(10\frac{2}{5} + 25\frac{3}{4}\right)$

$= 50\frac{12}{9} - 10\frac{2}{5} - 25\frac{3}{4}$

$= \frac{462}{9} - \frac{52}{5} - \frac{103}{4}$

$= \frac{9240 - 1872 - 4635}{180}$

$= \frac{9240 - 6507}{180} = \frac{2733}{180}$

$= \frac{911}{60} = 15\frac{11}{60}$ km

12. Sides of field = $10\frac{2}{5}$ m, $7\frac{2}{3}$ m, $3\frac{2}{5}$ m, $7\frac{2}{5}$ m

Perimeter of field $= 10\frac{2}{5} + 7\frac{2}{3} + 3\frac{2}{5} + 7\frac{2}{5}$

$= \frac{52}{5} + \frac{23}{3} + \frac{17}{5} + \frac{37}{5}$

$= \frac{156 + 115 + 51 + 111}{15}$

$= \frac{433}{15} = 28\frac{13}{15}$ m

MCQs : 1. (a) $= \frac{2}{7} + \frac{3}{7} = \frac{5}{7}$

2. (a) $= \frac{1}{7} + \frac{4}{7} = \frac{5}{7}$

3. (d) $= \frac{5}{7} - \frac{2}{7} = \frac{3}{7}$

4. (a) $= \frac{11}{12} - \frac{7}{18} = \frac{33 - 14}{36} = \frac{19}{36}$

5. (a) $= \frac{15}{4} + \frac{11}{5} = \frac{75 + 44}{20} = \frac{119}{20}$

Multiplication and Division of Fraction

Exercise - 12.1

1. (a) $\frac{2}{\cancel{7}} \times \cancel{7} = 2$ (b) $2 \times \frac{7}{5} = \frac{14}{5}$

$= 2\frac{4}{5}$

(c) $\frac{1}{6} \times 8 = \frac{8}{6} = \frac{4}{3} = 1\frac{1}{3}$

(d) $9 \times \frac{1}{5} = \frac{9}{5} = 1\frac{4}{5}$

(e) $\frac{1}{3} \times 7 = \frac{7}{3} = 2\frac{1}{3}$

(f) $\frac{\cancel{9}^{3}}{\cancel{10}_{2}} \times \frac{\cancel{15}^{3}}{2} = \frac{27}{2} = 13\frac{1}{2}$

(g) $\cancel{6}^{3} \times \frac{3}{\cancel{2}} = 9$ (h) $\cancel{10}^{5} \times \frac{5}{\cancel{2}} = 25$

(i) $10 \times 2\frac{2}{12} = \cancel{10}^{5} \times \frac{\cancel{26}^{13}}{\cancel{12}_{6}} = \frac{5 \times 13}{3}$

$= \frac{65}{3} = 21\frac{2}{3}$

2. (a) $7 \times \frac{1}{49} = \frac{\cancel{7}}{\cancel{49}} = \frac{1}{7}$

(b) $\cancel{5} \times \frac{2}{\cancel{25}} = \frac{2}{5}$

(c) $\cancel{6} \times \frac{3}{\cancel{36}_{6}} = \frac{\cancel{3}}{6} = \frac{1}{2}$

(d) $\cancel{4} \times \frac{3}{\cancel{36}_{9}} = \frac{\cancel{3}}{9} = \frac{1}{3}$

(e) $\frac{2}{3} \times \frac{3}{2} = \frac{\cancel{6}}{\cancel{6}} = 1$

(f) $\frac{3}{\cancel{8}} \times \cancel{72}^{9} = 27$

(g) $\cancel{9} \times \frac{5}{\cancel{18}_{2}} = \frac{5}{2} = 2\frac{1}{2}$

(h) $\frac{3}{6} \times \frac{1}{2} = \frac{\cancel{3}}{\cancel{12}} = \frac{1}{4}$

(i) $\cancel{5} \times \frac{3}{\cancel{5}} = 3$

3. (a) $\frac{\cancel{3}}{\cancel{5}} \times \frac{\cancel{15}^{3}}{\cancel{18}_{6}} = \frac{3}{6} = \frac{1}{2}$

(b) $2\frac{4}{9} \times \frac{9}{12}$

$\frac{22}{\cancel{9}} \times \frac{\cancel{9}}{12} = \frac{22}{12} = \frac{11}{6} = 1\frac{5}{6}$

(c) $4\frac{4}{11} \times \frac{10}{25}$

$\frac{48}{11} \times \frac{10}{25} = \frac{480}{275} = \frac{96}{55} = 1\frac{41}{55}$

(d) $1\frac{3}{8} \times 2\frac{4}{7}$

$\frac{11}{8} \times \frac{18}{7} = \frac{99}{28} = 3\frac{15}{28}$

(e) $\frac{10}{11} \times \frac{3}{7} = \frac{30}{77}$ (f) $\frac{5}{8} \times \frac{7}{12} = \frac{35}{96}$

(g) $\frac{7}{\cancel{16}_{2}} \times \frac{\cancel{8}}{22} = \frac{7}{44}$

(h) $2\frac{3}{7} \times \frac{3}{5}$

$\frac{17}{7} \times \frac{3}{5} = \frac{51}{35} = 1\frac{16}{35}$

(i) $2\frac{2}{3} \times \frac{4}{5} = \frac{8}{3} \times \frac{4}{5} = \frac{32}{15} = 2\frac{2}{15}$

Exercise - 12.2

1. (a) $\frac{2}{3} \div 4 = \frac{2}{3} \times \frac{1}{4} = \frac{2}{12} = \frac{1}{6}$

(b) $\frac{1}{5} \div 3 = \frac{1}{5} \times \frac{1}{3} = \frac{1}{15}$

(c) $\frac{9}{14} \div 3 = \frac{\cancel{9}^{3}}{14} \times \frac{1}{\cancel{3}} = \frac{3}{14}$

(d) $3\frac{9}{25} \div 3 = \frac{84}{25} \times \frac{1}{3}$

$= \frac{\cancel{84}^{28}}{25 \times \cancel{3}} = \frac{28}{25} = 1\frac{3}{25}$

(e) $5\frac{6}{17} \div 21 = \frac{\cancel{91}^{13}}{17} \times \frac{1}{\cancel{21}_{3}} = \frac{13}{51}$

(f) $4\frac{8}{15} \div 6 = \frac{68}{15} \times \frac{1}{6} = \frac{68}{90} = \frac{34}{45}$

(g) $\frac{8}{11} \div 8 = \frac{\cancel{8}}{11} \times \frac{1}{\cancel{8}} = \frac{1}{11}$

(h) $\frac{2}{5} \div 2 = \frac{\cancel{2}}{5} \times \frac{1}{\cancel{2}} = \frac{1}{5}$

(i) $\frac{12}{13} \div 4 = \frac{\cancel{12}^{3}}{13} \times \frac{1}{\cancel{4}} = \frac{3}{13}$

2. (a) $\frac{15}{19} \div \frac{5}{3}$ (b) $6 \div \frac{6}{11}$

$= \frac{\cancel{15}^{3}}{19} \times \frac{3}{\cancel{5}} = \frac{9}{19}$ $= \cancel{6} \times \frac{11}{\cancel{6}} = 11$

(c) $\frac{25}{3} \div \frac{13}{3}$ (d) $7\frac{2}{9} \div 1\frac{3}{4}$

$= \frac{25}{\cancel{3}} \times \frac{\cancel{3}}{13} = \frac{25}{13}$ $= \frac{65}{9} \div \frac{7}{4}$

$= \frac{65}{9} \times \frac{4}{7}$

$= \frac{260}{63} = 4\frac{8}{63}$

(e) $\frac{1}{12} \div 2\frac{1}{24}$

$= \frac{1}{12} \div \frac{49}{24} = \frac{1}{\cancel{12}} \times \frac{\cancel{24}^{2}}{49} = \frac{2}{49}$

(f) $9\frac{1}{8} \div 11\frac{2}{6}$

$= \frac{73}{8} \div \frac{68}{6} = \frac{73}{8} \times \frac{6}{68} = \frac{438}{544} = \frac{219}{272}$

(g) $\frac{5}{48} \div \frac{6}{4} = \frac{5}{\cancel{48}_{12}} \times \frac{\cancel{4}}{6} = \frac{5}{72}$

(h) $10\frac{4}{9} \div 2\frac{3}{5}$

$= \frac{94}{9} \div \frac{13}{5} = \frac{94}{9} \times \frac{5}{13}$

$= \frac{470}{117} = 4\frac{2}{117}$

(i) $1\frac{9}{10} \div 2\frac{1}{12}$

$= \frac{19}{10} \div \frac{25}{12} = \frac{19}{\cancel{10}_{5}} \times \frac{\cancel{12}^{6}}{25} = \frac{114}{125}$

(j) $8\frac{7}{8} \div 11\frac{2}{6}$

$= \frac{71}{8} \div \frac{68}{6} = \frac{71}{8_4} \times \frac{6^3}{68} = \frac{213}{272}$

(k) $3\frac{4}{7} \div \frac{25}{49}$

$= \frac{25}{7} \div \frac{25}{49} = \frac{25}{7} \times \frac{49}{25} = \frac{49}{7} = 7$

(l) $4\frac{2}{7} \div \frac{25}{49}$

$= \frac{30}{7} \div \frac{49}{25} = \frac{30^6}{7} \times \frac{49^7}{25_5} = \frac{42}{5} = 8\frac{2}{5}$

(m) $4\frac{8}{9} \div \frac{36}{45}$

$= \frac{44}{9} \times \frac{45}{36} = \frac{44^{11}}{9} \times \frac{45^5}{36_9} = \frac{55}{9} = 6\frac{1}{9}$

(n) $10\frac{2}{10} \div \frac{102}{200}$

$= \frac{102}{10} \times \frac{200}{102} = \frac{200}{10} = 20$

(o) $6\frac{2}{5} \div \frac{4}{15}$

$= \frac{32}{5} \times \frac{15}{4} = \frac{32^8}{5} \times \frac{15^3}{4} = 8 \times 3 = 24$

Exercise - 12.3

1. Total books = 36

Hindi books = $36^{12} \times \frac{1}{3} = 12$

2. Total students = 57

girls = $57^{19} \times \frac{2}{3} = 19 \times 2 = 38$

3. Total students = 75

Students went to zoo = $75^5 \times \frac{7}{15}$

$= 35$

4. A tin contain butter = 100 kg

Used butter = $100^4 \times \frac{3}{25}$

(a) Used butter = 12 kg

(b) Left butter = 100 – 12 = 88 kg

5. Product of two num. = $3\frac{1}{5} = \frac{16}{5}$

One number = $\frac{4}{25}$

Other num. = $\frac{16}{5} \div \frac{4}{25}$

$= \frac{16^4}{5} \times \frac{25^5}{4} = 4 \times 5 = 20$

6. $\frac{6}{9} \div 2$

$= \frac{6^3}{9} \times \frac{1}{2} = \frac{3}{9} = \frac{1}{3}$

Share of each son = $\frac{1}{3}$ of property

7. Spend money = $100 \frac{20}{49} \times \frac{7}{10}$

$\frac{4920}{49} \times \frac{7}{10} = \frac{492}{7}$

Saved money = $\frac{4920}{49} - \frac{492}{7}$

$= \frac{4920 - 3444}{49} = \frac{1476}{49} = ₹\ 30\frac{6}{49}$

8. $22\frac{1}{4} \div 2\frac{3}{4}$

$= \frac{89}{4} \div \frac{11}{4} = \frac{89}{4} \times \frac{4}{11} = \frac{89}{11} = 8\frac{1}{11}$

9. $\frac{41}{105} \div 8\frac{1}{5}$

$= \frac{41}{105} \div \frac{41}{5} = \frac{41}{105} \times \frac{5}{41} = \frac{5}{105} = \frac{1}{21}$

10. $100 \div \frac{1}{2}$

$= 100 \times \frac{2}{1} = 200$ Oranges

11. (a) $5\frac{3}{4} \div \frac{23}{25} = \frac{23}{4} \times \frac{25}{23} = \frac{25}{4} = 6\frac{1}{4}$

(b) $3\frac{1}{2} \div \frac{7}{5} = \frac{7}{2} \times \frac{5}{7} = \frac{5}{2} = 2\frac{1}{2}$

(c) $3\frac{3}{4} \div 7\frac{1}{2}$

$= \frac{15}{4} \div \frac{15}{2} = \frac{15}{4_2} \times \frac{2}{15} = \frac{1}{2}$

(d) $4\frac{1}{2} \div \frac{1}{3} = \frac{9}{2} \times \frac{3}{1} = \frac{27}{2} = 13\frac{1}{2}$

12. (a) $4\frac{6}{11} \times \_\_\_\_ = 6 \Rightarrow \frac{50}{11} \times x = 6$

$x = \frac{6 \times 11}{50} \Rightarrow x = \frac{33}{25}$

(b) $4\frac{1}{2} \times 2\frac{1}{5}$

$= \frac{9}{2} \times \frac{11}{5} = \frac{99}{10} = 9\frac{9}{10}$

(c) $4\frac{5}{6} \times \frac{3}{6}$

$= \frac{29}{\cancel{6}_2} \times \frac{\cancel{3}}{6} = \frac{29}{12} = 2\frac{5}{12}$

(d) $5\frac{8}{9} \div \frac{7}{9}$

$= \frac{53}{\cancel{9}} \times \frac{\cancel{9}}{7} = \frac{53}{7} = 7\frac{4}{7}$

13. $50 \div \frac{1}{5}$

$= \frac{50 \times 5}{1} = 250$

Number of customers = 250

14. $700 \div 3\frac{1}{2}$

$= 700 \div \frac{7}{2} = \cancel{700}^{100} \times \frac{2}{\cancel{7}} = 200$

= 200 tickets were sold

15. $25\frac{5}{4} \div 1\frac{1}{3}$

$= \frac{105}{4} \div \frac{4}{3} = \frac{105}{4} \times \frac{3}{4} = \frac{315}{16}$

$= 19\frac{11}{16}$ jugs can be filled.

MCQs : 1. (d) $\frac{3}{4} \times 4\frac{3}{7}$

$= \frac{3}{4} \times \frac{31}{7} = \frac{93}{28} = 3\frac{9}{28}$

2. (c) $\frac{4}{15} \div \frac{2}{3}$

$= \frac{4}{15} \times \frac{3}{2} = \frac{2}{5}$

3. (b) $\frac{1}{49} \times 7 = \frac{7}{49} = \frac{1}{7}$

Time

Exercise - 13.1

1. (a) 1 min = 60 sec

(b) 3 min = 60 × 3 = 180 sec

(c) 8 min = 8 × 60 sec = 480 sec

(d) 1 hr = 60 min

(e) 2 hr = 60 × 2 min = 120 min

(f) 4 hr = 4 × 60 min = 240 min

2. (a) 8 hrs 1 hr = 60 min

= 8 × 60 = 480 min

(b) 4 hrs 40

= 4 × 60 + 40 = 240 + 40

= 280 min

(c) 7 hr 20 min

= 7 × 60 + 20 = 420 + 20 = 440 min

(d) 12 hr 12 min

= 12 × 60 + 12

= 720 + 12 = 732 min

(e) 15 hrs 1 hrs = 60 min

15 × 60 = 900 min

(f) 1 day = 24 hrs

= 24 × 60 = 1440 min

3. (a) 18 min

= 18 × 60 = 1080 sec

(b) 7 min 2 sec

= 7 × 60 + 2

= 420 + 2 = 422 sec

(c) 9 min 55 sec

= 9 × 60 + 55

= 540 + 55 = 595 sec

(d) 12 min 20 sec

= 12 × 60 + 20

= 720 + 20 = 740 sec

(e) 15 min 40 sec

= 15 × 60 + 40

= 900 + 40 = 940 sec

(f) 2 hr

= 2 × 60 = 120 min

= 120 × 60 = 7200 sec

4. (a) 2 days = 24 × 2

= 48 hrs

(b) 4 days = 4 × 24

= 96 hrs

(c) 1 week = 7 × 24

= 168 hrs

(d) 5 day 5 hours

= 5 × 24 + 5 = 120 + 5 = 125 hrs

(e) 12 days 10 hrs
$= 12 \times 24 + 10$
$= 288 + 10 = 298$ hrs
(f) 15 days 15 hours
$= 15 \times 24 + 15$
$= 360 + 15 = 375$

5. (a) $\frac{240}{24}$ hrs = 10 days

(b) $\frac{350}{24}$ hrs = 14 days 14 hrs

(c) $\frac{275}{24}$ 11 days 11 hrs

(d) $\frac{450}{24}$ 18 days 18 hrs

(e) $\frac{630}{24}$ 26 days 6 hrs

(f) $\frac{550}{24}$ 22 days 22 hrs

6. (a) $\frac{126}{60}$ = 2 hrs 6 min

(b) 250 minutes = 4 hrs 10 min

(c) 320 minutes = 5 hrs 20 min

(d) 450 minutes = 7 hrs 30 min

7. (a) 75 sec = 1 min 15 sec

(b) 120 sec = 2 min

(c) 225 sec = 3 min 45 sec

(d) 300 sec = 5 min

(e) 365 sec = 6 min 5 sec

(f) 450 sec = 7 min 30 sec

8. Add :

(a)
	30	Sec
	70	Sec
+	18	Sec
	118	Sec

= 1 min 58 sec

(b)
	30	min
	35	min
+	26	min
	91	min

= 1 hrs 31 min

(c)
	10	min	36	sec
+	30	min	30	sec
	40	min	66	sec

= 41 min 6 sec

(d)
	8	hrs	30	min
	7	hrs	42	min
+	5	hrs	20	min
	20	hrs	92	min
−			60	min
	21	hrs	32	min

(e)
	10	hrs	20	min
	15	hrs	20	min
+	16	hrs	30	min
	41	hrs	70	min
−			60	min
	42	hrs	10	min

(f)
	16	hrs	16	min
	22	hrs	25	min
+	30	hrs	30	min
	68	hrs	71	min
−			60	min
	69	hrs	11	min

(g)
	18	hrs	12	min
	16	hrs	35	min
+	22	hrs	22	min
	56	hrs	69	min
−			60	min
	57	hrs	09	min

9. Subtract :

(a)
	30	min	22	sec
−	15	min	15	sec
	15	min	7	sec

(b)
	34	hr	35	min
−	20	hr	20	min
	14	hr	15	min

(c)
	18	hr	45	min	16	sec
−	16	hr	40	min	7	sec
	2	hr	5	min	9	sec

(d) 15 hr 20 min 38 sec
− 9 hr 11 min 16 sec
6 hr 9 min 22 sec

(e) 25 hr 40 min
− 17 hr 24 min
8 hr 16 min

(f) 18 hr 15 min
− 12 hr 18 min
5 hr 57 min

(g) 40 hr 40 min
− 24 hr 24 min
16 hr 16 min

Exercise - 13.2

1. Multiply :

(a) min sec
13 16
× 6
78 min 96 sec

60 sec = 1 m
= 78 + 1 min (60 × 1) + 36 sec
= 79 min 36 sec

(b) hr min sec
5 16 15
× 3
15 hr 48 min 45 sec

(c) hr min sec
10 10 20
× 4
40 hr 40 min 80 sec

= 40 hrs 40 min (60 + 20 = 80 sec)
= 40 hrs 41 min 20 sec

(d) hr min sec
11 15 25
× 8
88 hr 120 min 200 sec

= 88 + 2 (60 × 2 min), 3 × 60 + 20
= 90 hrs 3 min 20 sec

(e) min sec
12 25
× 5
60 min 125 sec

= 60 + 2 min (60 × 2) + 5 sec
= 62 min 5 sec

(f) hr min sec
6 15 12
× 7
42 hr 105 min 84 sec

= 42 hrs + (60 + 45 min = 105)
= 84 (60 + 24)
= 43 hrs 45 min (60 + 24) sec
= 43 hrs 46 min 24 sec

2. (a) 22 min 20 sec by 5

5) 22 (4 min
20
2 → 6×20= 120
+ 20 s = 140s
5) 140 (28 sec
10
40
40
0

= 4 min 28 sec

(b) 31 min 42 sec by 6

6) 31 (5 min
30
1 → 60 sec
+ 42 sec
6) 102 (17 sec
6
42
42
0

= 5 min 17 sec

(c) 46 hrs 57 min by 9

9) 46 (5 hr
45
1 → 60 min
+ 57 min
9) 117 (13 min
9
27
27
0

= 5 hrs 13 min

(d) 80 hrs 56 min 48 sec by 13

$13\overline{)80}\,(6$ hr
78
2 → 120 min
+ 56 min
$13\overline{)176}\,(13$ min
13↓
46
39
7 → 7×60 = 420s
+ 48 sec
$13\overline{)468}\,(36$sec
39↓
78
78
0

6 hrs 13 min 36 sec

(e) 40 hrs 12 min by 4

$4\overline{)40}\,(10$ hr
40
0 → $4\overline{)12}\,(3$ min
12
0

= 10 hrs 3 min

(f) 26 hrs 9 min 24 sec by 7

$7\overline{)26}\,(3$ hr
21
5 → 300 min
+ 9 min
$7\overline{)309}\,(44$ min
28↓
29
28 → 60 sec
1 + 24
$7\overline{)84}\,(12$ sec
7↓
14
14
0

= 3 hr 44 min 12 sec

Exercise - 13.3

1.
$$\begin{array}{r} 7:45\text{ am} \\ -\ 6:15 \\ \hline 1:30\text{ am} \end{array}$$

2.
$$\begin{array}{r} 8:30\text{ pm} \\ -\ 3:18 \\ \hline 5:12\text{ pm} \end{array}$$

3.
$$\begin{array}{r} 1:20\text{ pm} \\ -\ 2:15\text{ pm} \\ \hline 3:35\text{ am} \end{array}$$
he walked 3 hr 35 min

4.
$$\begin{array}{r} 7:15\text{ pm} \\ -\ 4:30\text{ pm} \\ \hline 2:45\text{ pm} \end{array}$$

5.

hr	min
1	25
×	7
7	175

→ $60\overline{)175}\,(2$
120
55

= 9 hrs 55 min

6. 2 hrs 3 sec ⇒ 1 hrs = 60 min
2 hrs = 2 × 60 = 120 min

Min
$7\overline{)120}\,(17$ min
7↓
50
49
1

1 × 60 = 60
60
+3
63
$7\overline{)63}\,(9$ sec
63
0

= 17 min 9 sec

MCQs : 1. (d) **2.** (b) **3.** (c) **4.** (c) **5.** (d)

Symmetry

Exercise - 18.1

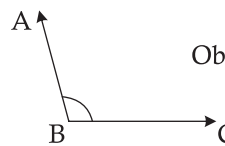
All question do yourself

Geometry

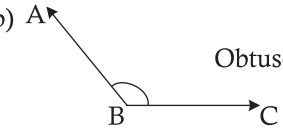
Exercise - 14.1

1. (a) Acute angle (b) Obtuse angle
(c) Acute angle (d) Acute angle

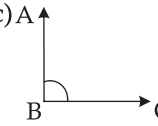
2. (a)

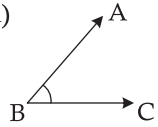


Obtuse angle

(b) 

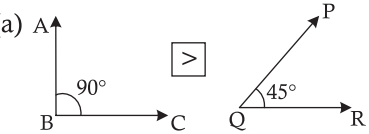
Obtuse angle

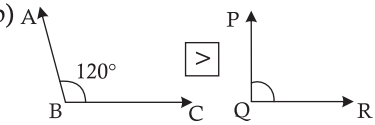
(c) 

(d) 

Right angle Acute angle

3. (a) 6 line segments
(b) 3 line segments
(c) 4 line segments
(d) 16 line segments
(e) 6 line segments
(f) 4 line segments

4. (a) 

(b) 

5. (a) Acute angle (b) Right angle
(c) Acute angle (d) Obtuse angle

Exercise - 14.2

1. Do yourself

2. (a) 90 ° Right angle
(b) 60° Acute angle
(c) 45° Acute angle
(d) 150° Obtuse angle
(e) 75° Acute angle
(f) 45° Acute angle

4. (a) $\angle VQR = 15°$ (b) $\angle UQR = 45°$
(c) $\angle TQU = 30°$ (d) $\angle SQR = 105°$
(e) $\angle PQR = 135°$

Exercise - 14.3

1. Solve with help of Protractor

2. Do yourself

Exercise - 14.4

1. Polygon = closed line b, d, e

2. (a) Rectangle, square
(b) Parallelogram

3. Parallelogram = A quadrilateral whose opposite sides are parallel is called a parallelogram.

4. (a) Acute angled triangle
(b) Acute angled triangle
(c) Obtuse angled triangle

5. Polygon = The figure which are closed and have more than two line segments are called polygons.

6. (a) True (b) False (c) False (d) True
(e) False

MCQs: 1. (c) **2.** (c) **3.** (d) **4.** (a) **5.** (b)