Answers

Exercise - 1.1

1.		Greatest number	Smallest number
	i	15892	15370
	ii	25800	25073
	iii	44687	44602
	iv	75671	75610
	v	34899	34891

2. i 375, 1475, 4713, 15951 ii 9347, 12300, 19035, 22570

3. i 89715, 89254, 45321, 1876 ii 18500, 8700, 3900, 3000

4. i < ii > iii > iv >

5. i Seventy two thousand six hundred forty two
   ii Fifty five thousand three hundred forty five
   iii Sixty six thousand six hundred
   iv Thirty thousand three hundred one

6. i 40270 ii 14064 iii 9700 iv 60000.

7. Greatest number is 7430 and smallest number is 3047

8. i 1000 ii 9999 iii 10000 iv 99999

Exercise - 1.2

1. i 90 ii 420 iii 3950 iv 4410

2. i 700 ii 36200 iii 13600 iv 93600

3. i 3000 ii 70000 iii 9000 iv 4000

4. i 3407 ii 12351 iii 30525 iv 99999

5. i 4000 + 300 + 40 + 8 ii 30000 + 200 + 10 + 4
   iii 20000 + 2000 + 200 + 20 + 2 iv 70000 + 5000 + 20 + 5

Exercise - 1.3

1. i 1,12,45,670 ii 2,24,02,151
   iii 3,06,08,712 iv 19,03,08,020

2. i Thirty four thousand twenty five

ii Seven lakh nine thousand one hundred fifteen

iii Forty seven crore sixty lakh three hundred seventeen

iv Six crore eighteen lakh seven thousand

3. i 4,57,400 ii 60,02,775

iii 2,50,40,303 iv 60,60,60,600

4. i 600000 + 40000 + 100 + 50 + 6

ii 6000000+300000+20000+500

iii 10000000 + 2000000 + 500000 + 30000 + 200 + 70 + 5

iv 700000000 + 50000000 + 8000000 + 10000 + 9000 + 200 + 2

5. i 54, 28, 524 ii 6, 43, 20, 501

iii 3, 03, 07, 881 iv 7, 70, 07, 070

6. i 18, 71, 964 > 4, 67, 612 ii 14, 35, 10, 300 > 14, 25, 10, 300

7. i 99, 999 < 2, 00, 015 ii 13, 49, 785 < 13, 50, 050

Exercise - 1.4

1. i 97, 645, 315 ii 20, 048, 421

iii 476, 356 iv 9, 490, 026, 834

3. Indian system

i Twelve crore thirty one lakh fifteen thousand twenty seven

ii Eight crore ninty six lakh forty three thousand ninty two

International system

i One hundred twenty three million one hundred fifteen thousand twenty seven

ii Eight nine million six hundred forty three thousand ninty two

4. i 2 ii 4

iii 0 iv Three hundred two

Exercise - 1.5

1. 54,284 2. 2, 34, 732

3. Greatest number = 75430

Smallest number = 30457

Difference = 44,973

4. 96875 bicycles 5. 2,400 km; 24,00,000m

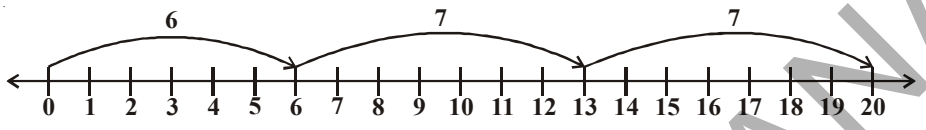
6. 1680 grams, 1 kg 680 gm 7. 22 km 500 m

8. 22 shirts ; 40 cm cloth will be left

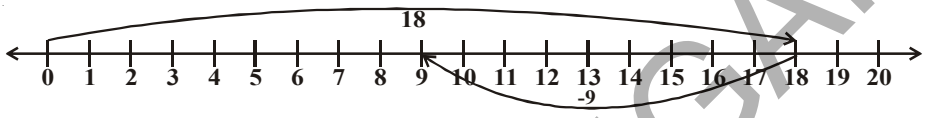
9. ₹ 45000

Exercise - 2.1

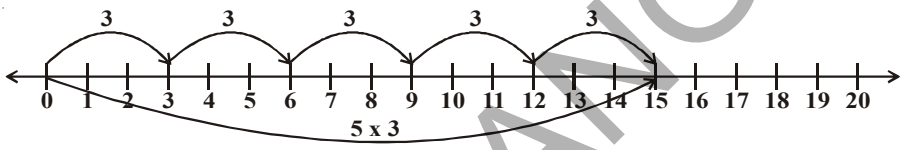
1. i T ii T
   iii F [All natural numbers are whole numbers] iv T
   v F [The whole number on the left of another number on the number line, is smaller]
   vi F [We can show the smallest whole number on the number line.]
   vii F [We can't check the greatest whole number on the number line]
2. 18
3. i .

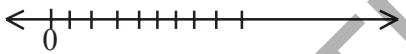


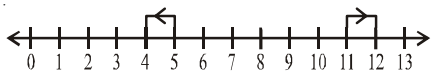
ii.



iii.



4. i 895 is on the right of 239 i 10001 is on the right of 1001
   iii 10015678 is on the right of 284013
5. 

6. i > ii > iii < iv > 7. 

Exercise 2.2

1. i 532 ii 47 iii c iv 100 v 85 vi d
2. i. 1095 ii 600
3. i 196300 ii 1530000 4. i 11040 ii 388710
5. i 407745 ii 2000955
6. ₹3000 7. ₹330
8. i c ii e iii b iv a v d

Exercise 2.3

1. 123456 × 8 + 6 = 987654

   1234567 × 8 + 7 = 9876543

   12345678 × 8 + 8 = 98765432

   123456789 × 8 + 9 = 987654321

2. $91 \times 11 \times 4 = 4004$

$91 \times 11 \times 5 = 5005$

$91 \times 11 \times 6 = 6006$

$91 \times 11 \times 7 = 7007$

$91 \times 11 \times 8 = 8008$

$91 \times 11 \times 9 = 9009$

$91 \times 11 \times 10 = 10010$

Exercise 3.1

1. Divisible by 2 -- ii, iii, iv, v vi, viii

   Divisible by 3 -- i, ii, iii, iv, v, vii

   Divisible by 6 -- ii, iii, iv, v

2. Divisible by 5 -- 25, 125, 250, 1250, 10205, 70985, 45880

   Divisible by 10 -- 250, 1250, 45880

5. 12345 is divisible by 3, 5

   54321 is divisible by 3.

7. i. 2, 8 ii. 0, 9 iii. 1, 7

8. 2 9. 6

Exercise 3.2

1. i 1, 2, 3, 4, 6, 9, 12, 18, 36 ii 1, 23

   iii 1, 2, 3, 4, 6, 8, 12, 16, 24, 32, 48, 96 iv 1, 5, 23, 115

2. i, ii 3. 19

4. Prime number- 11, 13, 17, 19, 23, 29

   Composte number- 12, 14, 15, 16, 18, 20, 21, 22, 24, 25, 26, 27, 28

5. 13-31, 79-97 6. (3, 5), (5, 7), (11, 13), (17, 19)

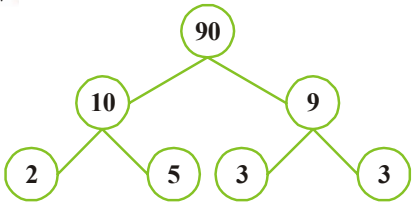
7. 5 and 7 8. 13, 23

9. 90 to 96 10. (31, 11, 11); (13, 17, 23); (3, 19, 31) etc

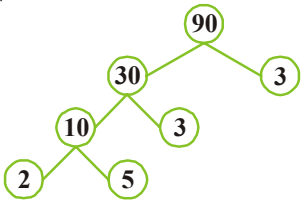
11. (3, 13); (7, 17); (23, 13)... 12. (2, 3); (3, 7); (7, 13) etc

Exercise 3.3

1. i



ii



2. $2 \times 2 \times 3 \times 7$

3. Greatest 4 digit number - 9999

Prime factors are- $3 \times 3 \times 11 \times 101$

4. It is 210 because $210 = 2 \times 3 \times 5 \times 7$

Exercise 3.4

1. i 9 ii 53 iii 5 iv 32

2. 72 3. 3 4. No; 1 5. 8 Lr

Exercise 3.5

1. i 60 ii 75 iii 42 iv 54 v 1008 vi 182
2. i 2352 ii 2142 iii 1980
3. 247
4. i 900 ii 904
5. 13th day

Exercise 3.6

1. i LCM = 120
   HCF = 3
   ii LCM = 200
   HCF = 1
   iii LCM = 48
   HCF = 12
2. 36 3. 546 4. 18

Exercise 3.7

1. i, ii, iii, iv 2. ii, iv, v
3. i No ii Yes iii Yes
4. Divisible by 4- i, ii, iii
   Divisible by 8 - i, ii, iii
5. 1 6. 1
7. 1001, 1012, 1023, 1034, 1045, 1056, 1067, 1078, 1089
8. 1243 9. 104

EXERCISE - 4.1

1. i. $\overline{AB}$, $\overline{BC}$, $\overline{AC}$ ii. $\overline{PQ}$, $\overline{QR}$, $\overline{RS}$, $\overline{ST}$, $\overline{PT}$
2. Do yourself
3. i. uncalculated/many ii. one
4. iii. line segment
5. i. two ii. one iii. none
6. i. T ii. T iii. F iv. F v. T
7. Do yourself

EXERCISE - 4.2

1. i., ii, iv,
2. Open (i., v) closed (ii, iii., iv)
3. Interior (A, B, E, G, I), boundary (K, F, C), exterior (J, D)
4. Do yourself

EXERCISE - 4.3

1. ii. $\angle BOC$, O, $\overrightarrow{OB}$, $\overrightarrow{OC}$ iii. $\angle COD$, O, $\overrightarrow{OC}$, $\overrightarrow{OD}$
   iv. $\angle DOA$, O, $\overrightarrow{OA}$, $\overrightarrow{OD}$
2. $\angle BAD$, $\angle ABC$, $\angle BCD$, $\angle ADC$
3. Do yourself
4. i., iii.

EXERCISE - 4.4

1. Do yourself
2. i. $\overline{PS}$ ii. $\angle R$ iii. $\overline{PS}$ and $\overline{QR}$ iv. $\angle P$ and $\angle R$
3. i. S, R ii. A, B, C, D, E iii. T, P, Q

EXERCISE - 4.5

1. Do yourself
2. Do yourself
3. i. T ii. T iii. T iv. F v. F
4. Do yourself

Exercise 5.1

3. Largest line segment is AE.
4. Reshma located correct.

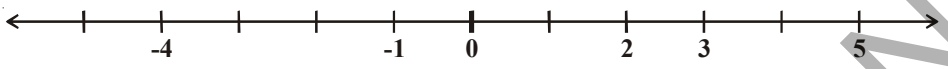
Exercise 5.2

1. i True
   ii False A right angle measure 90^o
   iii Fasle A straight angle measure 180^o
   iv True
   v True
2. Acute angle $\angle 1, \angle 3$
   Obtuse angle $\angle 2, \angle 4$
3. $\angle ABC = 60^o$
   $\angle FED = 120^o$
   $\angle RQP = 90^o$
   $\angle FED$ is the largest angle
4. i right angle ii straight angle
   iii zero angle iv obtuse angle
   v reflex angle
5. Acute angle, 45^o
   Right angle, 90^o
   Obtuse angle, 150^o
   Reflex angle, 270^o
   Straight angle, 180^o

Exercise 5.3

1. i Parallel lines ii Parallel lines iii perpendicular
   iv neither of them v Parallel
3. parallel lines AB||CD, AD||BC
   perpendicular $AD \perp AB$, $AB \perp BC$, $BC \perp CD$, $CD \perp DA$
   pair of intersecting line AC, BD

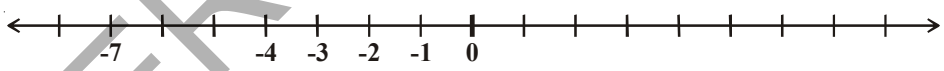
Exercise - 6.1

1. i. + 3000 meters ii. -10 meters
   iii. + 35°C iv. 0°C
   v. -36°C vi. -500 meters
   vii. -19°C viii. +18°C
2. (-1, -2, -3, -4, -5 ..... etc.)
3. (1, 2, 3, 4, 5 ..... etc.)
4. 

5. i. [False, left side] ii. [False]
   iii. [True] iv. [True]

Exercise - 6.2

1. i. < ii. > iii. < iv. > v. < vi. <
2. i. (-7, -3, 5) ii. (-1, 0, 3)
   (5, -3, -7) (3, 0, -1)
   iii. (-6, 1, 3) iv. (-5, -3, -1)
   (3, 1, -6) (-1, -3, -5)
3. i. (True) ii. (False, -12 is negative integer and + 12 is positive integer)
   iii. (True) iv. (True)
   v. (False, -100 < + 100) vi. (False, -1 > -8)
4. i. 0 ii. -4, -3, -2, -1
   iii. -7 iv. -1, -2



5. Kufri, -6°C < 4°C

Exercise - 6.3

1. i. 1 ii. -10 iii. -9
   iv. 0 v. -16 vi. 3
2. i. 7 ii. 6 iii. 0
   iv. -115 v. -132 vi. 6
3. i. -154 ii. -40 iii. 199 iv. 140
4. i. 6 ii. -78 iii. -64 iv. 25

Exercise - 6.4

1. i. 18 ii. -14 iii. -33
   iv. -33 v. 44 vi. 19
2. i. < ii. > iii. > iv. =
3. i. 13 ii. 0 iii. -9 iv. -6
4. i. -13 ii. 21 iii. -33 iv. 88

Exercise - 7.1

1. ii, iii
2. iv, v

$$\begin{bmatrix} \frac{13}{2} \text{ between 6 and 7} \\ \frac{7}{3} \text{ between 2 and 3} \end{bmatrix}$$

3. ii, iv
4. i. $2\frac{1}{3}$ ii. $5\frac{1}{2}$ iii. $2\frac{1}{4}$ iv. $6\frac{3}{4}$ 5. i. $\frac{9}{7}$ ii. $\frac{26}{8}=\frac{13}{4}$ iii. $\frac{92}{9}$ iv. $\frac{79}{9}$

Exercise 7.2

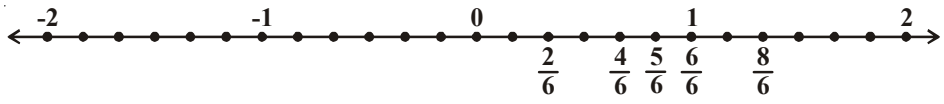
1. i, ii
3. i $\left(\frac{2}{3},\frac{5}{3},\frac{1}{3},\frac{4}{6}=\frac{2}{3}\right)$ ii $\left(\frac{3}{5} \text{ and } \frac{2}{5}\right)$ iii $\left(\frac{7}{8},\frac{2}{8}\right)$

Exercise 7.3

1. Ascending Descending

   i $\frac{1}{8}<\frac{3}{8}<\frac{4}{8}<\frac{6}{8}$ or $\frac{6}{8}>\frac{4}{8}>\frac{3}{8}>\frac{1}{8}$

   ii $\frac{3}{9}<\frac{4}{9}<\frac{6}{9}<\frac{8}{9}$ Write in descending order yourself.

2. 

$\frac{2}{6}<\frac{4}{6}<\frac{5}{6}<\frac{6}{6}<\frac{8}{6}$

3. i $\frac{1}{6} \boxed{\leq} \frac{1}{3}$ ii $\frac{3}{4} \boxed{\geq} \frac{2}{6}$ iii $\frac{2}{3} \boxed{\geq} \frac{2}{4}$

iv $\frac{6}{6} \boxed{=} \frac{3}{3}$ v $\frac{5}{6} \boxed{\leq} \frac{5}{5}$

4. i $\frac{1}{2} \boxed{\geq} \frac{1}{5}$ ii $\frac{2}{4} \boxed{=} \frac{3}{6}$ iii $\frac{3}{5} \boxed{\leq} \frac{2}{3}$

iv $\frac{3}{4} \boxed{\geq} \frac{2}{8}$ v $\frac{3}{5} \boxed{\leq} \frac{6}{5}$ vi $\frac{7}{9} \boxed{\geq} \frac{3}{9}$

5. i No ; because $\frac{4}{5}$ is greater then $\frac{5}{9}$

ii No ; $\frac{9}{16}$ is greater then $\frac{5}{9}$

iii Yes $\frac{4}{5} = \frac{16}{20}$; $\frac{\cancel{16}^{4}}{\cancel{20}_{5}} = \frac{4}{5}$

iv No, because $\frac{4}{30}$ is greater then $\frac{1}{15}$; $\frac{\cancel{4}}{\cancel{30}} = \frac{2}{15} > \frac{1}{15}$

6. Varshith, because Lalita read $\frac{2}{5}$ of 100 that is 40 pages.

7. i + ii – iii +

8. i $\frac{2}{18} = \frac{1}{9}$ ii $\frac{11}{15}$ iii $\frac{2}{7}$ iv $\frac{22}{22} = 1$

v $\frac{5}{15}$ vi $\frac{8}{8} = 1$ vii $\frac{1}{3}$ viii $\frac{1}{4}$ ix $\frac{3}{5}$

9. i $\frac{4}{10}$ ii $\frac{8}{21}$ iii $\frac{9}{6}$ iv $\frac{7}{27}$

10. 1 (Complete wall) 11. $\frac{2}{7}$ 12. $\frac{5}{8}$

13. Snigdha takes less time she takes $\frac{9}{20}$ minutes less to walk across the school ground.

Exercise 7.4

1. i $\frac{8}{10}$ ii 15 iii 9 iv tenth or $\frac{8}{10}$ v decimal point
2. i 125.4 ii 20.2 iii 8.6
3. i .16 ii .278 iii .06 iv 3.69
   v .016 vi 34.5
4. i 4 ii $\frac{8}{100}$ iii $\frac{9}{10}$ iv $\frac{5}{10}$
   v $\frac{3}{100}$ vi $\frac{7}{10}$
5. i 0.4 ii 70.7 iii 6.6 iv 7.4 v. 0.8
6. i $0.04 < 0.14 < 1.04 < 1.14$ ii $.99 < 1.1 < 7 < 9.09$
7. i $8.8 > 8.6 > 8.59 > 8.09$ ii $8.68 > 8.66 > 8.06 > 6.8$

Exercise 7.5

1. i 1·25 rupees ii 0·75 iii 3·75 rupees
2. i 28.91 ii 17·09 iii 10.46 iv 21·24 v 6·32
3. 8 *km*. 845 meter
4. 12 m

Exercise 9.1

1. i 2 *m* ii 4 *m* iii 3 *m*
2. 3 n
3. i 2s ii 3s
4. 7 *n* 5. 90 *m* 6. ₹ 23
7. (x – 2) 8. 2y + 3 9. 6 z
10. (i) 8, 11, 14, 17, 29, 12 (ii) 14, 29, 34, 44, 39, 10
11. i 19 ii 3 + 2 (n – 1) = 2n+1

Exercise 9.2

1. i 5 q ii $\frac{y}{4}$ iii $\frac{pq}{4}$ iv 3z+5
   v 9n + 10 vi 2y – 16 vii 10y + x
3. 3p 4. $x + 3$ 5. $5n$

Exercise 9.3

1. i, iv, v, viii, x, xi, xii

2.

i	LHS = $x - 5$	RHS = 6
ii	LHS = $4y$	RHS = 12
iii	LHS = $2z + 3$	RHS = 7
iv	LHS = 3p	RHS = 24
v	LHS = 4	RHS = $x - 2$
vi	LHS = 2a-3	RHS = –5

3. i x = 2 ii y = 9 iii a = 8 iv p = 3 v n = 5 vi z = 9

Exercise 10.1

1. 230 *cm*., 48 *cm*., 24 *cm*., 40 *cm*.
2. Perimeters are 120 *cm*, 120 *cm*., 120 *cm*., 144 *cm*. and cost of wire are ₹ 1800, ₹1800, ₹1800, ₹2160 respectively.
3. 6 rectangles, sides are (11,1) (10,2) (9,3) (8,4) (7,5) (6, 6) 4. ₹ 840
5. i 20 cm ii 15 cm iii 10 cm iv 12 cm
6. Bunty ; 60 m 7. length - 16 cm Breadth-8 cm 8. 10 cm
9. i 12 cm ii 27 cm iii 22 cm

Exercise 10.2

1. i 1000 cm^2 ii 2925 m^2 iii 400 cm^2 133 km^2
2. i 676 m^2 ii 289 km^2 iii 2704 cm^2 iv 64 cm^2
3. 45 *cm* 4. 1800 m^2
5. length of side = 10 *cm* ; Area = 100 cm^2
6. 200 *m* 7. 24 m^2 ; ₹ 5760
8. Square plot ; 64m^2 9. 4.7 cm, Square
10. The cost of fencing Rahul's field = ₹ 1,80,000
    The cost of fencing Ramu's field = ₹ 1,80,000
    Ramu can plant more trees ; 1000 trees more
11. 80 *m* 12. ₹ 26,400
13. ₹ 5,04,000
14. i Area increases by 4 times ii Area increases by 6 times
15. i Area increases by 4 times ii Area become $\frac{1}{4}$ of the original area.

Exercise 11.1

1. i 7 : 11 ii 2 : 3 iii 2 : 3 iv 5 : 8 v 3 : 5

2. i 2 ii $\frac{1}{2}$ iii 2 : 1

3. i. 1 : 4 ii chilli : pulses = 1 : 80 iii. 1 : 1
   pulses : chilli = 80 :1

Exercise 11.2

1. Simplest form- i, iii, v, vi
   i 16 : 20 → 4 : 5
   iv 20 : 60 → 1 : 3

2. Rice : wheat rice : total
   1 : 3 1 : 4

3. i. 5 : 3 ii. 5 : 8 iii. 3 : 8

5. 4 : 1

6. 20 : 60, simplest form is 1 : 3 7. 2 : 5

Exercise 11.3

1. i 15 ii 10

2. A X = 6 cm XB = 8 cm

3. Geeta = ₹ 450, Laxmi = ₹ 600

4. Satya = ₹ 1350, siri = ₹ 2250

5. numbers are 60 and 72

7. income = 6534, saving = 1188

Exercise 11.4

1. ₹ 75 2. ₹ 24 3. 525 gram

4. 20 chairs 5. 12 *hrs*

6. i ₹ 25000 ii 19 months (1 year 7 months)

7. ₹ 210

8. i. 480 sheeps ii. 8 : 11 iii. 11 : 3

9. No, By changing the order as 3, 5, 9, 15 and 5, 3, 15, 9 10. 5°C

11. $\frac{15}{18} = \frac{5}{6} = \frac{10}{12} = \frac{25}{30}$

12.

Breadth	10	20	40
Length	25	50	100

13. i. 3 : 1 ii. 1 : 4 iii. 3 : 4

14. i. 5 : 4 ii. 4 : 5

15.

Yellow	2	4	6	8	10
Greeen	6	12	18	24	30
Total Sweets	8	16	24	32	40

i. 3 : 1 ii. 24 iii. 8 iv. 30 v. 64

16.

Girls	4	8	12	16	20
Boys	5	10	15	20	25
Total	9	18	27	36	45

i 4 : 5 ii. 12 iii. 30 iv. 25

Exercise 12.2

3. i 4 ii 1 iii 2 iv 0
   v 4 vi 2

5. i 3 ii 1 iii 0 iv 2
   v 6 vi Uncountable lines which passes through the centre of the circle.

Exercise 14.1

1.

Faces	Edges	Vertices
4	6	4

2.

F	E	V
5	8	5

3.

Cone	1	1	1
Cylendre	1	2	Nil
Sphere	1	Nil	Nil

4. Traingular faces 2, Rectangular faces 3, edges 9, vertices 6

Exercise 14.2

1. i Not, because polygon is a closed figure made by straight lines ii Yes
   iii not, see the above answer and find.

2. i pentagon ii octagon iii hexagon iv triangle