

KEY

1. KNOWING OUR NUMBERS

EXERCISE - 1.1

- 1) 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
 8) i) 1000 ii) 9999 iii) 10,000 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) $700000000 + 500000000 + 80000000 + 10000 + 9000 + 200 + 2$
 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 ninety six lakh forty three thousand ninety two
 International system
 i) One hundred twenty three million one hundred fifteen thousand twenty seven
 ii) Eighty nine million six hundred forty three thousand ninety 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 = 44973
 4) 96875 bicycles 5) 24,00,000 meters
 6) 1680 grams 7) 22km 500 m
 8) 22 shirts ; 40 cm cloth will be left 9) ₹ 45000

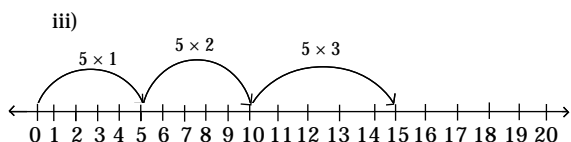
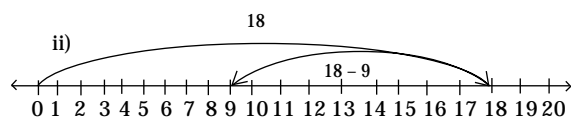
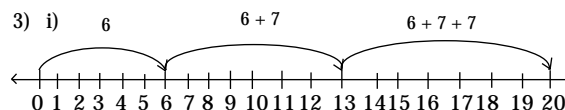
RESPONSE SHEET

- I. 1) Ascending order : $51108 < 52307 < 53014 < 56381$;
 Descending order : $56381 > 53014 > 52307 > 51108$
 2) 8753, 3578 3) i) 5000 ii) 10000 iii) 2000
 iv) 6000 4) i) $40000+300+10+2$ ii) $90000 + 700 + 4$
 5) i) Thirty eight thousand four hundred twenty one.
 ii) Twenty five lakhs seventy three thousand two hundred one. 6) i) Three hundred fifty two thousand and one hundred fifty four. ii) Forty seven millions six hundred twenty thousand five hundred eighty three.
 7) 16 kms 200 mts.
 II. 1) 99999 2) 32000 3) 10,000 Tens 4) 1 crore
 5) 999

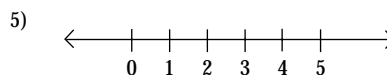
2. WHOLE NUMBERS

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

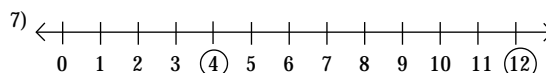


- 4) i) 895 lies on the right of 239 ii) 10001 lies on the right of 1001 iii) 10015678 lies on the right of 284013



'0' is the smallest Whole number. So, kept in the left most.

- 6) i) > ii) > iii) < iv) >



EXERCISE - 2.2

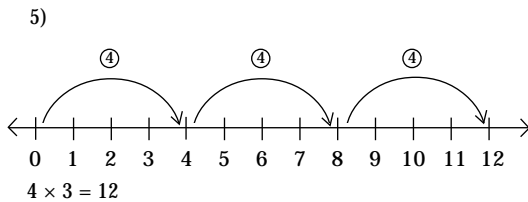
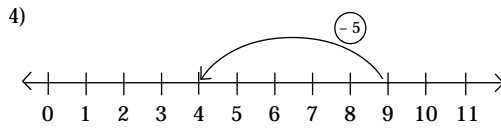
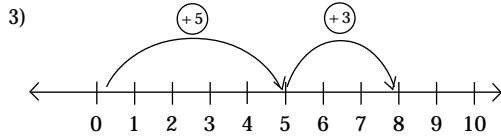
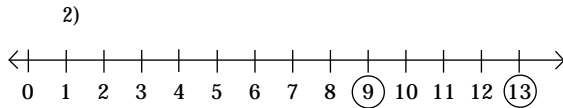
- 1) i) 532 ii) 47 iii) C iv) 100 v) 85 vi) d
 2) i) 1095 ii) 600 3) i) 196300 ii) 1530000
 4) i) 11040 ii) 388710 5) i) 407745 ii) 2000955
 6) ₹ 3000 7) ₹ 330 8) i) c ii) e iii) b iv) a v) d

EXERCISE - 2.3

- 1) $123456 \times 8 + 6 = 987654$
 $1234567 \times 8 + 7 = 9876543$
 $12345678 \times 8 + 8 = 98765432$
 $12345678 \times 8 + 9 = 987654321$
- 2) $91 \times 11 \times 4 = 4004$ 3) i) 123123123
 $91 \times 11 \times 5 = 5005$ ii) 321321321
 $91 \times 11 \times 6 = 6006$ iii) 231231231
 $91 \times 11 \times 7 = 7007$
 $91 \times 11 \times 8 = 8008$
 $91 \times 11 \times 9 = 9009$
 $91 \times 11 \times 10 = 10010$

RESPONSE SHEET

- I. 1) The Successor of 57 is 58, The predecessor of 57 is 56



- 6) 22. These are 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28.
- 7) i) 30541 ii) 49812 8) i) 563 ii) 324
 9) i) 14600 ii) 78000 10) i) 220770 ii) 532238

- II. 1) Does not exist
 2) Commutative property under addition
 3) 1 4) Distributive property 5) left to right

3. PLAYING WITH NUMBERS

EXERCISE - 3.1

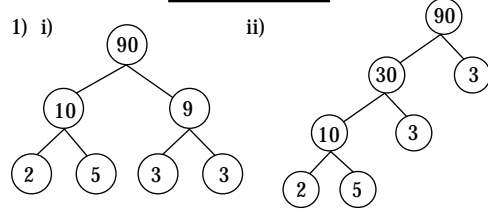
- 1) Divisible 2— ii, iii, iv, v, vi, viii
 Divisible 3— i, ii, iii, iv, v, vii
 Divisible 6— ii, iii, iv, v
 Divisible 5— 25, 125, 250, 1250, 10205, 70985, 45880
 Divisible 10— 250, 1250, 45880
- 4) 198, 918, 891 is divisible by 9.
 5) 12345 is divisible by 3, 5; 54321 is only divisible by 3

- 6) 34, 54 are divisible by 2; 45, 54 are divisible by 3 and 9 \therefore 54 is divisible by 6; 35, 45 are divisible by 5
 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, iv 3) 19 4) Prime numbers 11, 13, 17, 19, 23, 29; Composite numbers 12, 14, 15, 16, 18, 20, 21, 22, 24, 25, 26, 27, 28 5) i) 13 and 31 ii) 79 and 97
 iii) 37 and 73 6) (3, 5), (5, 7), (11, 13), (17, 19)
 7) 5 and 7 8) 13, 23 9) 90 to 96
 10) $29 + 13 + 11, 19 + 17 + 17, 3 + 7 + 43$
 11) 3, 13; 7, 17; 19, 29; 31, 41; 37, 47 etc.
 12) 3, 7; 7, 13; 17, 3; 2, 3; 11, 19; 13, 17

EXERCISE - 3.3



- 2) $2 \times 2 \times 3 \times 7$ 3) Greatest 4 digit number - 9999
 Prime factors are - $101 \times 11 \times 3 \times 3$
 4) It is 210 because $210 = 2 \times 3 \times 5 \times 7$

EXERCISE - 3.4

- 1) Prime factorisation method :
 i) 9 ii) 53 iii) 5 iv) 32
 Continued division method :
 i) 9 ii) 53 iii) 5 iv) 32
- 2) 72 3) 3 4) No; 1

EXERCISE - 3.5

- 1) i) 60 ii) 75 iii) 42 iv) 54 v) 1008 vi) 182
 2) i) 2352 ii) 2142 iii) 1980 3) 252
 4) i) 900 ii) 904 5) 576 6) 8 7) 12th day

EXERCISE - 3.6

- 1) i) LCM = 120 ii) LCM = 200 iii) LCM = 48
 HCF = 3 HCF = 1 HCF = 12
- 2) 25 3) 546 4) 18

EXERCISE - 3.7

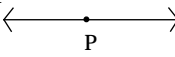
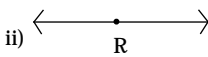
- 1) i, ii, iii, iv 2) ii, iv, v 3) i) No ii) Yes iii) Yes
 4) Divisible by 4- i, ii, iii, Divisible by 8 - i, ii, iii
 5) 1 6) 1 7) 1001, 1012, 1023, 1034, 1045, 1056, 1067, 1078, 1089 8) 1243 9) 104

RESPONSE SHEET


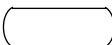
- I. 1) i) divisible by 6 ii) divisible by 6
 2) i) 1 and 7 ii) 3 and 9
 3) Factors of 54 is 1, 2, 3, 6, 9, 18, 27, 54; Factors of 98 is 1, 2, 7, 14, 49, 98
 4) Prime numbers : 53, 59, 61, 67;
 Composite numbers : 52, 54, 55, 56, 57, 58, 60, 62, 63, 64, 65, 66, 68, 69
 5) i) $11 + 13 + 17$ ii) $23 + 29 + 31$ 6) 36
 7) 120 min (2 hrs) 8) 12 9) 74736 is divisible by 8
 10) 100364 is divisible by 11
- II. 1) 6 2) 1 3) 1 4) finite 5) polydrome number

4. BASIC GEOMETRICAL IDEAS



EXERCISE - 4.1

- 1) i) $\overline{AB}, \overline{BC}, \overline{CA}$ ii) $\overline{PQ}, \overline{QR}, \overline{RS}, \overline{ST}, \overline{TP}$
 2) i) O, A, B, C, D ii) $\overline{AB}, \overline{BC}, \overline{CD}, \overline{DA}$
 iii) $\overline{OA}, \overline{OB}, \overline{OC}, \overline{OD}$ iv) $\overline{AC}, \overline{BD}$
 3) i) uncalculated/many ii) one 4) line segment
 5) i) two ii) one iii) no 6) i) T ii) T iii) F iv) F
 v) T
 7) i)  ii) 

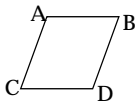
EXERCISE - 4.2

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

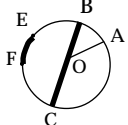
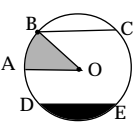
EXERCISE - 4.3

- 1) ii) $\angle BOC, O, \overline{OB}, \overline{OC}$ iii) $\angle COD, O, \overline{OC}, \overline{OD}$
 iv) $\angle DOA, O, \overline{OD}, \overline{OA}$ 2) $\angle ABC, \angle BCD, \angle CDA, \angle DAB$
 3)  4) 

EXERCISE - 4.4

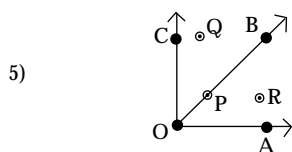
- 1)  2) i) PS ii) $\angle R$ iii) PS and QR iv) $\angle P$ and $\angle R$
 3) i) S, R ii) A, B, C, D, E iii) T, P, Q

EXERCISE - 4.5

- 1)  2) 
 3) i) T ii) T iii) T iv) F v) F 4) Many diameters can be observed. So many diameters can be formed.

RESPONSE SHEET

- I. 1) True 2) False 3) True 4) True 5) True
 II. 1) Semi-circle 2) Infinite 3) three 4) twice 5) collinear
 III. 1) b 2) a 3) b 4) c 5) d
 IV. 1) G, D are in the interior; A, B, H are on the figure; C, E are in the exterior.
 2) 'O' is the centre of the circle, \overline{PQ} is the diameter, $\overline{OP}, \overline{OQ}$ are the radii, OAB is a sector, \overline{XY} is the chord.
 3) i) 'O' is the vertex. $\overline{OP}, \overline{OQ}$ are the arms
 ii) 'L' is the vertex. $\overline{OL}, \overline{OM}$ are the arms
 4) Figures i) & iv) are examples of simple curves.



5. MEASURES OF LINES AND ANGLES

EXERCISE - 5.1

- 1) Edge of the table, the length, breadth and height of the room, the iron rods of the window.
 2) While comparing two line segments, a divider is better than a ruler because the error may occur due to angular viewing when a ruler is used. We can get good result if the divider is carefully used with out distributing the opening of the divider.
 3) $AB < AC < AD < AE$ 4) Reshma located correctly.

EXERCISE - 5.2

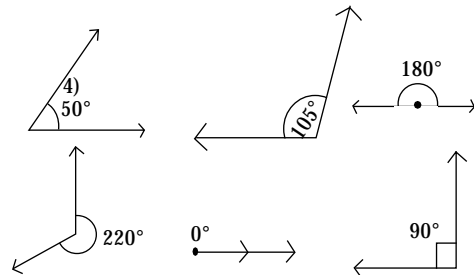
- 1) i) True ii) False (A right angle measures 90°)
 iii) False (A straight angle measures 180°) iv) True v) True
 2) Acute angles $\angle 1, \angle 3$; Obtuse angles $\angle 2, \angle 4$
 3) $\angle ABC = 60^\circ, \angle DEF = 120^\circ, \angle PQR = 90^\circ, \angle DEF$ is the largest angle
 4) i) right angle ii) straight angle
 iii) complete angle iv) reflex angle v) obtuse angle
 5) Acute angle, 45° , Right angle, 90° , Obtuse angle, 150° , Reflex angle, 270° , Straight angle, 180°

EXERCISE - 5.3

- 1) i) Parallel lines ii) Parallel lines iii) Perpendicular
 iv) Neither Parallel nor perpendicular v) Parallel
 2) $AB \perp BC, DE \perp EF$
 3) a) parallel lines $\overline{AB} \parallel \overline{CD}, \overline{AD} \parallel \overline{BC}$
 b) perpendicular lines $\overline{AB} \perp \overline{AD}$ and $\overline{AB} \perp \overline{BC}$
 $\overline{DC} \perp \overline{AD}$ and $\overline{DC} \perp \overline{BC}$
 c) pair of intersecting lines $\overline{AC}, \overline{BD}$

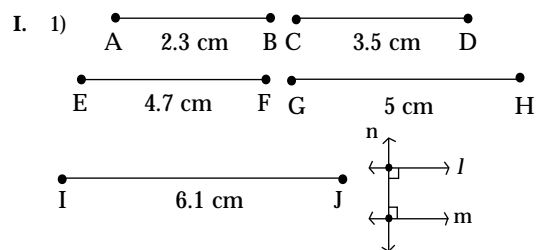
RESPONSE SHEET - I

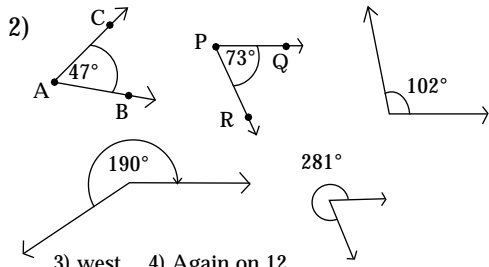
- I. 1) $AB \parallel CD$ 2) $\overline{AB} \parallel \overline{EF}$ 3) $AB \perp BC; AB \perp AD; BH \perp BC; BH \perp HF; AG \perp AD; AG \perp GE$ etc.



- i) Acute angle ii) Obtuse angle
 iii) Straight angle iv) Reflex angle
 v) Zero angle vi) Right angle
 5) i) 90° ii) 240° iii) 210° iv) -90° v) -30°
 II. 1) only one 2) zero 3) parallel 4) compass 5) set squares

RESPONSE SHEET - II





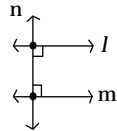
3) west 4) Again on 12

5) It is in a rectangular shape

$\overline{AB} = \overline{CD}$ and $\overline{AD} = \overline{BC}$, $\overline{AB} \parallel \overline{DC}$ and $\overline{AD} \parallel \overline{BC}$, $\overline{AB} \perp \overline{AD}$, $\overline{AB} \perp \overline{BC}$, $\overline{BC} \perp \overline{AB}$, $\overline{BC} \perp \overline{CD}$

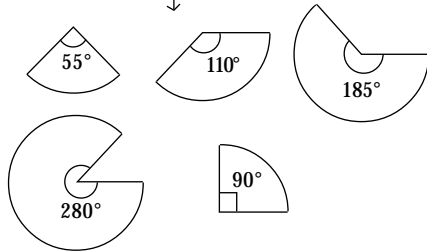


6) Take two straws and pass a thread through them and fix the straws according to the required angles with the help of cellotape.



7) $l \perp n$

8)



9) A, K, M, N, R, V, W, X, Y, Z

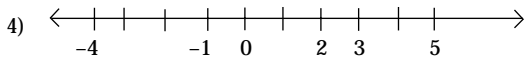
10) H, M, N, U, E, F, W, Z

II. 1. Acute angle 2. parallel 3. Parallel
4. Intersecting lines 5. 150°

6. INTEGERS

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) -21, -15, -9, -4, -2 3) +7, + 13, + 19, + 23, + 35

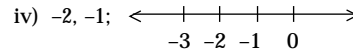
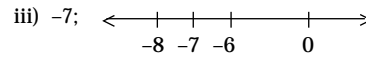
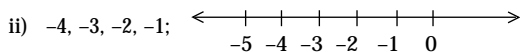


- 5) i) [False, left side] ii) [False] iii) [True] iv) [True]

EXERCISE - 6.2

- 1) i) < ii) > iii) < iv) > v) < vi) <
2) i) (-7, -3, 5) ii) (-1, 0, 3) iii) (-6, 1, 3) iv) (-5, -3, -1)
(5, -3, -7) (3, 0, -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, -8 < - 1)

- 4) i) 0;



5) Kufri

EXERCISE - 6.3

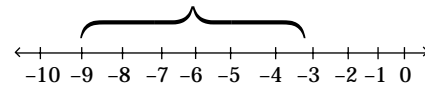
- 1) i) 1 ii) -10 iii) -9 iv) 0 v) -16 vi) 3
2) i) 7 ii) 6 iii) 0 iv) -115 v) -132 vi) 6
3) i) -154 ii) -40 iii) 199 iv) 140
4) i) 6 ii) -78 iii) -64 iv) 25

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

RESPONSE SHEET

- I. 1) a) +42° b) +2500 c) -1200 d) +5
2) -9, -8, -7, -6, -5, -4, -3 are



the integers between -10 and -2

- 3) a) < b) > c) > d) < 4) Ooty is colder
5) a) 2 b) -8 c) 5 d) 1
6) a) -19 b) 22 c) -25 d) 22
7) a) < b) < c) > d) =

- II. 1) Negative Integer 2) zero 3) -13 4) -7 5) 0

7. FRACTIONS AND DECIMALS

EXERCISE - 7.1

- 1) ii, iii 2) iv, v

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) $\frac{26}{8}$ iii) $\frac{92}{9}$ iv) $\frac{79}{9}$

EXERCISE - 7.2

1) i, ii

- 2) i) $\frac{1}{5}, \frac{2}{5}, \frac{3}{5}, \frac{4}{5}, \frac{6}{5}$ ii) $\frac{1}{3}, \frac{2}{3}, \frac{4}{3}, \frac{5}{3}, \frac{7}{3}$

- iii) $\frac{2}{7}, \frac{3}{7}, \frac{4}{7}, \frac{5}{7}, \frac{6}{7}$ iv) $\frac{1}{2}, \frac{3}{2}, \frac{5}{2}, \frac{7}{2}, \frac{9}{2}$

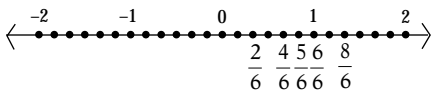
- v) $\frac{1}{6}, \frac{2}{6}, \frac{3}{6}, \frac{4}{6}, \frac{5}{6}$

- 3) i) $\left(\frac{2}{3}, \frac{5}{3}, \frac{1}{3}, \frac{4}{6}\right)$ ii) $\left(\frac{3}{5}, \frac{2}{5}\right)$ 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) $\frac{3}{9} < \frac{4}{9} < \frac{6}{9} < \frac{8}{9}$ $\frac{8}{9} > \frac{6}{9} > \frac{4}{9} > \frac{3}{9}$
- 2) i) 
- $\frac{2}{6} < \frac{4}{6} < \frac{5}{6} < \frac{6}{6} < \frac{8}{6}$
- 3) i) < ii) > iii) > iv) = v) <
- 4) i) > ii) = iii) < iv) > v) < vi) >
- 5) i) No; because $\frac{4}{5}$ is greater than $\frac{5}{9}$
- ii) No; $\frac{9}{16}$ is greater than $\frac{5}{9}$
- iii) Yes; $\frac{4}{5} = \frac{16}{20}$; $\frac{4}{5} = \frac{4}{5}$
- iv) No; because $\frac{4}{30}$ is greater than $\frac{1}{15}$; $\frac{4}{30} = \frac{2}{15} > \frac{1}{15}$
- 6) Varshith read less part of the book.
- 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) $\frac{5}{15} = \frac{1}{3}$ 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) Complete wall 11) $\frac{2}{7}$ 12) $\frac{5}{8}$
- 13) Snigdha takes less time. She takes $\frac{9}{20}$ minutes less to half 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) $8.68 > 8.66 > 8.06 > 6.8$

RESPONSE SHEET

- I. 1) Proper fractions : $\frac{3}{4}, \frac{5}{8}, \frac{8}{13}$;
- Improper fractions : $\frac{9}{5}, \frac{13}{7}, \frac{21}{16}$;
- Mixed fraction : $1\frac{2}{3}, 7\frac{8}{5}$
- 2) a) $\frac{5}{2}$ b) $\frac{5}{3}$ c) $\frac{3}{2}$ d) $\frac{3}{10}$

3) Like fractions : $\frac{2}{7}, \frac{8}{7}, \frac{15}{7}, \frac{1}{7}, \frac{13}{7}$;

Unlike fractions : $\frac{3}{4}, \frac{6}{7}, \frac{10}{3}, \frac{8}{5}, \frac{11}{9}$

4) $\frac{120}{150}, \frac{105}{150}, \frac{225}{150}, \frac{700}{150}, \frac{190}{150}$

5) Ascending Order : $\frac{1}{7}, \frac{3}{7}, \frac{4}{7}, \frac{9}{7}, \frac{11}{7}$;

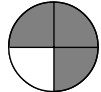
Descending Order : $\frac{11}{7}, \frac{9}{7}, \frac{4}{7}, \frac{3}{7}, \frac{1}{7}$

6) a) $\frac{70}{24}$ b) $\frac{41}{30}$ 7) a) 11 b) $14\frac{1}{5}$

8) a) $\frac{61}{35}$ b) $\frac{21}{60}$ 9) $\frac{2}{5}$

10) a) 0.07 b) 1.3 c) 0.023 d) 0.0033

- II. 1) A fraction 2) standard form

3)  $\frac{3}{4}$ 4) < 5) hundredth

8. DATA HANDLING**RESPONSE SHEET**

- I. 1) 10 3) i) Srikakulam ii) East Godavari
iii) Vijayanagaram, Nellore iv) 8
v) West Godavari

- II. 1) data 2) range 3) 9.5 cms 4) breadth 5) size

9. INTRODUCTION TO ALGEBRA**EXERCISE - 9.1**

- 1) i) 2 ii) 4 iii) 3 2) 3n 3) i) 2m ii) 3m
- 4) 7n 5) 90m 6) $\frac{23}{q}$ 7) $(x - 2)$ 8) $2y + 3$
- 9) 6z 10) i) 8, 11, 14, 17, 29, 12 ii) 14, 29, 34, 44, 39, 10
- 11) i) 19 ii) $2n + 1$

EXERCISE - 9.2

- 1) i) 5q ii) $\frac{4}{y}$ iii) $\frac{pq}{4}$ iv) $3z + 5$ v) $9n + 10$
- vi) $2y - 16$ vii) $10y + x$
- 2) i) a) 11 is subtracted from y.
b) From y, 11 is subtracted.
- ii) a) The product of 10 and a.
b) The number which is 10 times of a.
- iii) a) x is divided by 5.
- b) The number which is $\frac{1}{5}$ th of x.
- iv) a) 11 is added to 3 times of m.
b) To the product of 3 and m, 11 is added.
- v) a) 5 is subtracted from 2 times of y.
b) 5 is subtracted from the product of 2 and y.
- 3) 3P 4) 3n 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) $y = 3$ v) $n = 5$
 vi) $z = 9$

RESPONSE SHEET

- I. 1) $x + 5$ 2) $11 - y$ 3) $2lm$ 4) $m/6$ 5) $3x - 10$
 6) $6t + 7$ 7) $2b \times 17$ 8) $A/9$ 9) $3m + 11$ 10) $3k + 2$
- II. 1) $p = 4s$ 2) $c = 2\pi r$ 3) $A = S^2$
 4) $p = a + b + c$ 5) $g = S.P - C.P$
- III. 1) ₹ 13n 2) ₹ $\frac{P}{10}$ 3) $2y + 5$
 4) Raju's age = $3b - 5$ 5) Sachin score = $\frac{2}{3} p$
- IV. 1; 7; -2; -5; -8; 5; 2; 4; -3; 6
- V. 1) $x = 3$ is the solution of the equation.
 2) $y = 7$ is the solution of the equation.
 3) $t = 4$ is the solution of the equation.
 4) $p = 6$ is the solution of the equation.

10. PERIMETER AND AREA**EXERCISE - 10.1**

- 1) i) 230cm ii) 48 cm iii) 24 cm iv) 40 cm
 2) Perimeters are 120cm, 120 cm, 120 cm, 144 cm, and cost of wire are ₹ 1800, ₹1800, ₹1800, ₹ 2160 respectively.
 3) So many like (1, 11), (4, 8), (5, 7), (2, 10), (3, 9) etc.
 4) ₹840 5) i) 20 cm ii) 15 cm iii) 10 cm
 iv) 12cm 6) Bunt; 960m
 7) length - 16cm, Breadth - 8cm 8) 10cm
 9) i) 12cm ii) 27cm iii) 22cm

EXERCISE - 10.2

- 1) i) 1000cm^2 ii) 2925m^2 iii) 400cm^2 iv) 133km^2
 2) i) 676m^2 ii) 289km^2 iii) 2704cm^2 iv) 64cm^2
 3) 45 cm 4) 1800m^2
 5) length of side = 10 cm; Area = 100cm^2
 6) 60m, 40m perimeter = 200m 7) 24m^2 ; ₹5760
 8) square plot ; 384m^2 9) 4.7cm, square
 10) Ramu can plant more trees ; 1000 trees more
 11) 80m 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 becomes $\frac{1}{4}$ of the original area.


RESPONSE SHEET

- I. 1) i) 22 cm ii) 20 cm iii) 17 cm iv) 12 cm
 v) 15 cm 2) Perimeter = 60cm, Area = 225 sq.cm
 3) Perimeter = 210 m, Area = 2700 sq.m
 4) 10 cm 5) Rs. 7000 6) i) 24 sq.cms ii) 23 sq.cms
 iii) 13 sq.cms iv) 22 sq.cms v) 14 sq.cms
- II. 1) 10,000 2) 40 m 3) 12 cm 4) 16 sq.units
 5) 6 times

11. RATIO AND PROPORTION**EXERCISE - 11.1**

- 1) ii) 7:11 iii) 2:3 iv) 5:8 v) 3:5
 2) i) $\frac{3}{2}$ ii) $\frac{2}{3}$ iii) 6:4 (or) 3:2
 3) i) 1:4 ii) chilli : pulses, pulses:chilli iii) 1:1
 1:80 80:1

EXERCISE - 11.2

- 1) Simplest form-i, iii, v, vi ii. 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 4)  5) 4 : 1
 Ratio = 1 : 3
 6) 20 : 60, simplest form is 1 : 3 7) 2 : 5

EXERCISE - 11.3

- 1) i) 15 ii) 10 2) A X = 6cm, XB = 8 cm
 3) Geetha = ₹ 450, Lakshmi = ₹ 600
 4) Satya = ₹ 1350, Vishnu = ₹ 2250
 5) one number = 60, second number = 72
 6) AX = 3.5cm and XB = 3.5 cm
 7) income = ₹ 6534, savings = ₹ 1188

EXERCISE - 11.4

- 1) ₹ 75 2) ₹ 24 3) 525 grams 4) 20 chairs
 5) 12hrs 6) i) ₹ 25000 ii) 1 year 7 months 7) ₹ 210
 8) i) 480 sheeps ii) 8 : 11 iii) 11:3
 9) No, By arranging the numbers in order they can be in proportion i) 3, 9, 5, 15 ii) 3, 5, 9, 15 iii) 5, 3, 15, 9
 iv) 5, 15, 3, 9 v) 9, 3, 15, 5 vi) 15, 5, 9, 3
 10) 5°celsius 11) 5, 12, 25
 12) i) 20, 100, $\frac{50}{125}$, $\frac{80}{200}$, $\frac{60}{150}$ ii) Do yourself
 13) i) 3 : 1 ii) 1 : 4 iii) 3 : 4 14) i) 5 : 4 ii) 4 : 5
 15) i) 3 : 1 ii) 24 iii) 8 iv) 24 v) 64
 16) i) 4 : 5 ii) 12 iii) 15 iv) 25

RESPONSE SHEET

- I. 1) like quantities 2) 8 3) 5 : 3
 4) 1 : 4 (1 month = 4 weeks) 5) 13 : 40
- II. 1) a) 11 : 15 b) 11 : 26
 2) 4 parts = 16 cm; 3 parts = 12 cm 3) 44 years
 4) 14 : 18, 35 : 45, 63 : 81, 70 : 90
 5) Naveen = 20 days, Praveen = 30 days

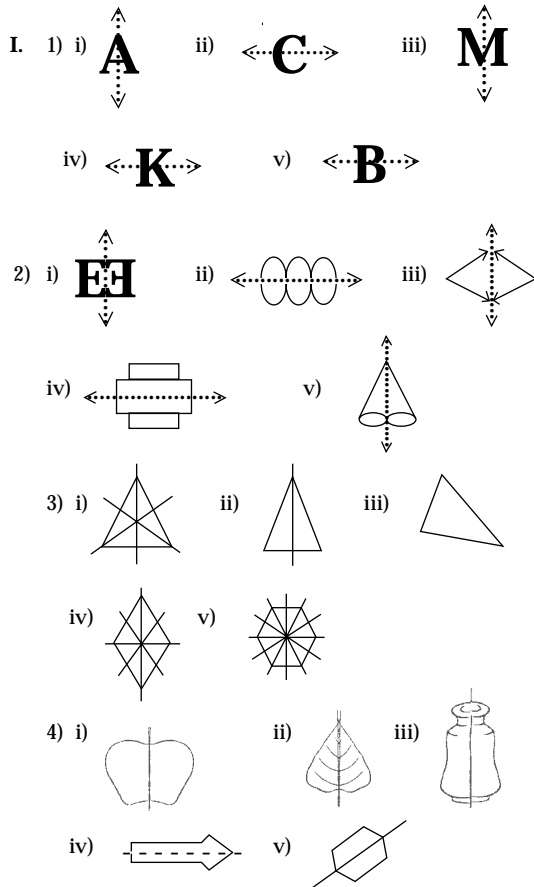
- III. 1) Gold = 75 gms, copper = 30 gm 2) a) 54
 b) 36 c) 90
 3) Ladies : 9, 12, 21, 33, 24; Gents : 15, 20, 35, 55, 40;
 Total : 24, 32, 56, 88, 64

12. SYMMETRY

EXERCISE - 12.2

- 1) Door, Note book, Surface of the table, Black board, A mathematical instrument box.
- 2) Shape of the moon, Ball, A wooden log, Sunflower, Earthworm, water melon.
- 3) i) 2 ii) 1 iii) 2 iv) No line v) 2 vi) 2
- 5) 1) 3 2) 1 3) 0 4) 4 5) 6
- 6) Un countable lines which passes through the centre of the circle.

RESPONSE SHEET

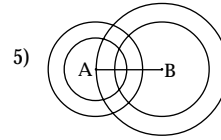


- II. 1) A circle 2) Two 3) Two 4) Diameter 5) No

13. PRACTICAL GEOMETRY

RESPONSE SHEET

- I. 1) 3.4 cm 2) i) 2.6 cm ii) 2.3 cm iii) 7 cm
 iv) 6.4 cm v) 2 cm 3) 4.3 cm



- 6) i) P is a point in the exterior
 ii) Q is a point on the circle
 iii) R is a point in the interior of the circle

14. UNDERSTANDING 2D AND 3D SHAPES

EXERCISE - 14.1

1) Faces	Edges	Vertices	
4	6	4	
2) F	E	V	
5	8	5	
3) Cone	1	1	1
Cylinder	1	2	0
Sphere	1	0	0
4) Triangular faces	2		
rectangular faces	3		
Edges	9		
Vertices	6		

EXERCISE - 14.2

- 1) i) Not a polygon because its sides are not closed.
 ii) A polygon iii) It is a closed figure but it has no sides.
 So it is not a polygon.
 2) i) 5; pentagon ii) 8; octagon iii) 6; hexagon
 iv) 3; triangle

RESPONSE SHEET

- I. 1) 2D shapes 2) 12 3) cylinder 4) cone
 5) triangular
- II. 1) c 2) b 3) d 4) a 5) b
- III. 1) F 2) T 3) T 4) F 5) T
- IV. 1) If a shape of an object is in two directions only, then it is called 2-D shape. **Egs** : a triangle, a rectangle, a square, a circle. All solid objects which have length, breadth and height or depth are called 3-D objects. **Egs** : a prism, a cylinder, a sphere, a pyramid.
 2) i) length = 4cm; breadth = 2cm; height = 2cm
 ii) length = 6cm; breadth = 2cm; height = 4cm
 3) Shapes (ii), (iii) are polygons; (i), (iv), (v) are not closed figures and are not polygons (vi) has no definite sides. So, it is not a polygon.
 4) Shapes (i), (iv), (v), (vii) are the regular polygons.

