Answers

Chapter—1

1. (a) 10 (b) –1 (c) –205 (d) –10 (e) 12

2. P = –15

3. 0

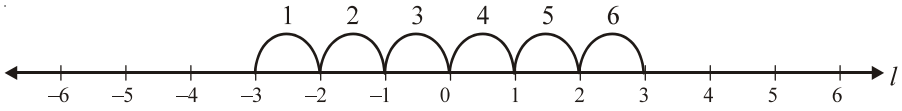
4. (a) (v) (b) (iii) (c) (i) (d) (ii) (e) (iv)

5. (a) > (b) < (c) =

6. (a) –120 (b) –79500 (c) 1180

7. 30 min.

8. 6



9. –2099

10. (a) True (b) True (c) True

11. –8

12. 25

13. ₹ 450

14. 7

15.

Operations	18	36	54	72
$\overset{+}{25}$	43	61	79	97
$\overset{-}{17}$	1	19	37	55
$\overset{\times}{6}$	108	216	324	432
$\overset{\div}{18}$	1	2	3	4

Chapter—2

1. (a) $\frac{7}{6}$ (b) $\frac{1}{21}$

2. (a) $\frac{10}{21}$ (b) $\frac{6}{23}$

3. 28

4. (a) $\frac{1}{4}$ (b) 37

5. $\frac{5}{6}$

6. 4 Toffees

7. 40.6 km

8. ₹ 17.84

9. Kartikeya, 50 g

10. (a) 4.730 kg (b) 8.004 kg

11. $\frac{3}{5}$ part Somu had the large share, $\frac{1}{5}$

12. (a) $\frac{1}{4}$ (b) 0.95

13. (a) 1 (b) 12 (c) 2.1 (d) $\frac{1}{3}$ (e) 0.356

14. 22 m

15. (a) $\frac{1}{4}$ (b) $\frac{1}{3} \times \frac{1}{4} = \frac{1}{12}$ (c) $\frac{1}{12}$

Chapter—3

1. (i) 3 (ii) 11 (iii) 48 (iv) 3

2. (i) $\frac{1}{6}$ (ii) $\frac{1}{2}$ (iii) $\frac{1}{2}$ (iv) $\frac{1}{2}$

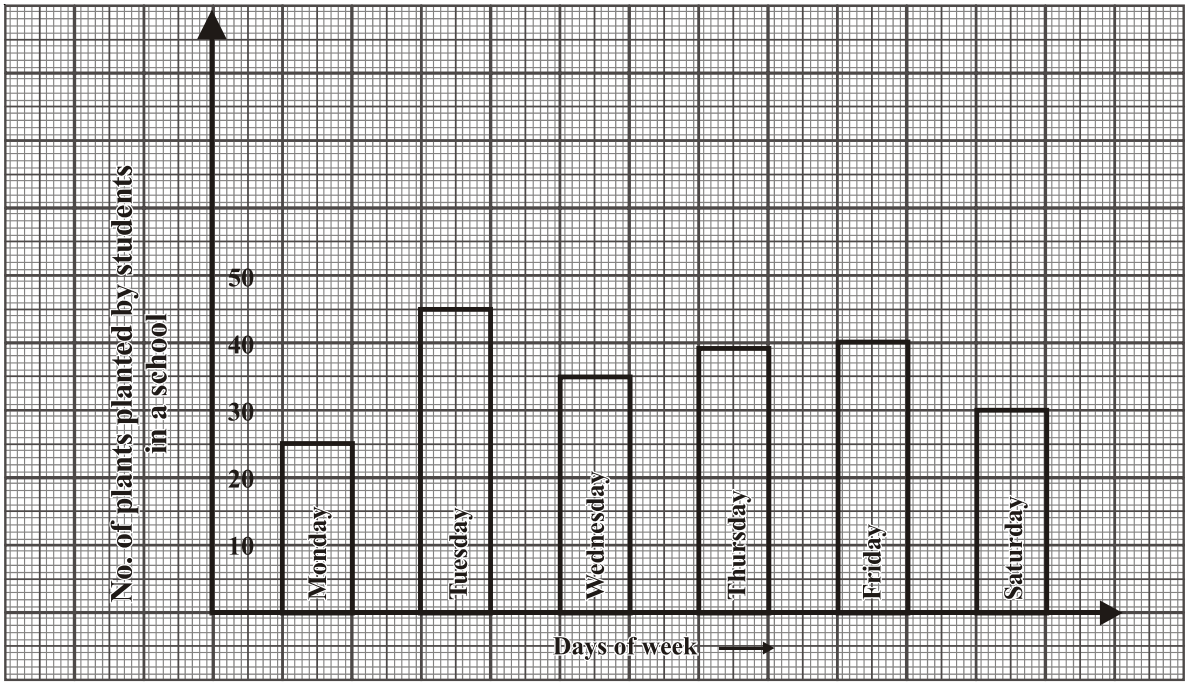
3. 3

4. 35

5. (i) False (ii) False (iii) True (iv) False

6. (i) Mathematics (ii) 73.6 (ii) Hindi, Mathematics (iv) 73.6%

7. (i)



(ii) Tuesday (iii) 5:9 (iv) 213

8. (i) Circket (ii) 48 (iii) 24 (iv) Tennis

Chapter—4

1. (a) $x = 72$ (b) $x = -\frac{-5}{11}$ (c) $x = 1.8$

2. (a) If you add 3 to one third of z, you get 30.

(b) One-fourth of a number x minus 4 gives 4.

3. (a) $2(2b + 5) = 250$ (b) $\frac{x}{3} = 3x - 8$

4. $y = \frac{4}{3}$ **5.** (a) $m = 7$ (b) $n = 2$

6. (a) 30 trees (b) (1) Trees give us fruits, (any two benefits)
(2) Trees make environment pure.

7. 40°, 50°

8. 35°

9. $\frac{3}{4}y + 3 = 21,\ y = 24$

10. 40 year, 50 year

11. 30 year, 65 year

12. 30

Chapter—5

1. (a) 25° (b) 135° (c) 180° (d) Two lines or two surfaces

2. $\angle 1$ & $\angle 5$, $\angle 2$ & $\angle 6$, $\angle 4$ & $\angle 8$, $\angle 3$ & $\angle 7$

3. (a)

4. (a) False (b) False (c) False (d) True

5. (i) $\angle LGR = 70°$ (ii) $\angle LMN = 70°$

6. (i) $\angle a$ & $\angle d$ (ii) $\angle a$ & $\angle e$, $\angle e$ & $\angle d$

7. No. because vertex is not common

8. (i) 45° (ii) 90°

9. (i) Yes (ii) No (iii) Yes

10. (i) Correspondign angles
(ii) Corresponding & vertically opposite angles
(iii) Linear Pair

11. (i) $y = 60°$ (ii) $y = 60°$ (iii) $y = 130°$

12. (i) $\angle POS$ & $\angle QOR$
(ii) $\angle QOP$ & $\angle POT$
(iii) $\angle QOT$ & $\angle TOS$
(iv) $\angle POQ$ & $\angle QOR$, $\angle POQ$ & $\angle POS$
(v) $\angle TOS$ & $\angle SOR$, $\angle POQ$ & POT, $\angle POT$ & $\angle TOS$

Chapter—6

1. C

2. (i) 2 (ii) Hypotenuse (iii) Altitude or Perpendicular bisector
(iv) Median

3. 40°, 80°

4. 360°

5. 8m

6. 1300 m

7. (i) $x = 70°$ $y = 70°$
(ii) $x = 120°$ $y = 70°$
(iii) $x = 80°$ $y = 75°$
(iv) $x = 80°$ $y = 50°$

8. (i) 30 (ii) 80° (iii) 30 (iv) 80

9. $AD^2 = \frac{3a^2}{4}$

10. (i) False (ii) True (iii) False (iv) False

Chapter—7

1. (a) Not possible

(b) Yes $\Delta ABD \cong \Delta CDB$

(c) Yes $\Delta DCB \cong \Delta ABC$

(d) Yes $\Delta RQP \cong \Delta NML$

2. (a) Yes $\Delta ACD \cong \Delta ABD$

(b) Yes $\Delta ABC \cong \Delta CDE$

(c) Not possible

(d) Yes $\Delta NML \cong \Delta MNP$

3. (a) Yes $\Delta ABC \cong \Delta ADC$

(b) Yes $\Delta ABC \cong \Delta DCB$

(c) Yes $\Delta PQO \cong \Delta SRO$

(d) Yes $\Delta LMO \cong \Delta QPN$

4. (a) Yes $\Delta PQR \cong \Delta MNL$

(b) Yes $\Delta AOB \cong \Delta COD$

(c) Yes $\Delta PRS \cong \Delta RPQ$

(d) Not possible

5. (i) $\angle R = \angle N$ (iv) $QR = LN$

(ii) $\angle P = \angle M$ (v) $QP = LM$

(iii) $\angle Q = \angle L$ (vi) $RP = NM$

6. SSS, $\angle N = 50^0$

7. 7 cm

8. (i) False (ii) True (iii) True (iv) True

Chapter—8

1. (a) 1 : 20 (b) 2 : 5 (c) 20 : 1

2. $x = 5$

3. (a) 0.0007 (b) 0.15

4. (a) $\frac{1}{8}$ (b) $\frac{3}{4}$

5. (a) 525% (b) 45%

6. ₹ 500

7. 1250 km

8. ₹ 40

9. 40°, 60°, 80°

10. $x = 24$

11. 12%

12. 20%

13. ₹ 270

14. $33\frac{1}{3}\%$

15. ₹ 562.50

16. (a) 20% (b) 100%

Chapter—9

1. (a) $\frac{34}{15}$ (b) $\frac{-26}{57}$

2. (a) $\frac{1}{195}$ (b) $\frac{-73}{9}$

3. (a) $\frac{-54}{55}$ (b) 1

4. (a) $\frac{4}{15}$ (b) $\frac{91}{24}$

5. (a) $\boxed{<}$ (b) $\boxed{=}$ (c) $\boxed{>}$

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

7. $\frac{-7}{2}$

8. (a) $\frac{61}{72}$ (b) $\frac{1}{4}, \frac{1}{2}, \frac{3}{4}$

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

10. (a) $\frac{6}{25}$ (b) $\frac{-1}{21}$ (c) $\frac{3}{2}$ (d) 12.6 or $\frac{63}{5}$ (e) $\frac{28}{15}$

11. $\frac{-7}{8} < \frac{-5}{6} < \frac{-3}{4}$

12. $\frac{-2}{7}$ **13.** $\frac{99}{62}$ **14.** $\frac{-78}{43}$

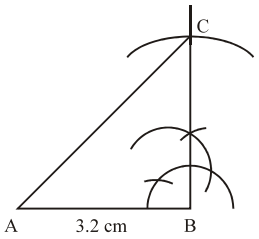
15. (a) $\left(\frac{19}{30}\right)^{th}$ part (b) Two good habits : (1) Saving (2) Donation

16. (a) $\boxed{\frac{1}{3}}$ (b) $\boxed{\frac{2}{5}}$ (c) $\boxed{\frac{4}{8}} = \boxed{\frac{1}{2}}$

Chapter—10

1. (d) **2.** (a) **3.** (b) **4.** (b)

5.



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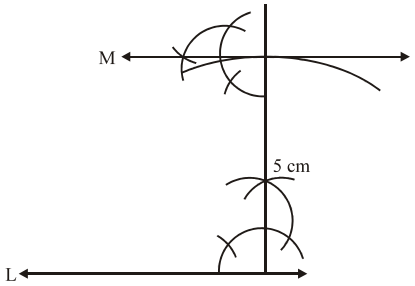

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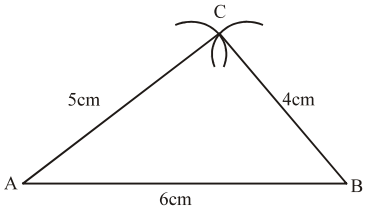

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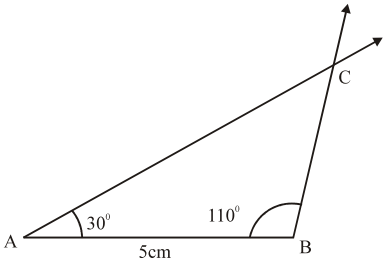

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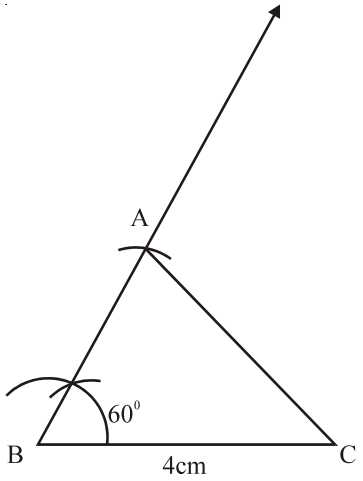
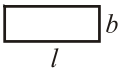


10. (i) Infinite (ii) 2, 1 (iii) 2, 1 (iv) 180°

Chapter—11

1. (a) _____ a^2 $4a$

(b)  _____ $2(l + b)$

(c)  πr^2 _____

(d) _____ $\frac{1}{2}bh$ $a + b + c$

2. (i) 1 (ii) 100 (iii) 10000 (iv) 1000000

3. 250000 m^2

4. (i) False (ii) True (iii) True (iv) True

5. (i) Number of sides
(ii) Circumference
(iii) Perimeter, Area
(iv) 35

6. Square shape till pati is a better deal because its area is more than circular shape till patti.

9. (i) 42cm^2 (ii) 425 59. unit

10. 6400 Flowers

Chapter—12

1. (a) $3x + 7y$ (b) $a + 2$

2. ₹ 21 $(x + y)$

3. 20 **4.** 3 **5.** $-y + 11$

6. (i) 1 (ii) -3 (iii) 2 (iv) -5

7. $2a^2 + ab + 3$, 38

8. $10x^2y$

9. $x = \frac{42}{19}$ Check $\Rightarrow$ L.H.S. $\Rightarrow \frac{2}{21}x + 8 = \frac{2}{21} \times \frac{42}{19} + 8 = \frac{4}{19} + 8 = \frac{4+152}{19} = \frac{156}{19}$

R.H.S. $= x + 6 = \frac{42}{19} + 6 = \frac{42+114}{19} = \frac{156}{19}$

= L.H.S. = R.H.S

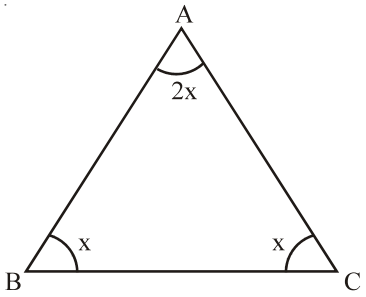
10. $2ab - b^2$

11. Length = 54 m, Breadth = 20 m

12. $8\ m^2 - 11\ m + 10$

13. $a^3 - 5a^2 + 7a - 7$

14. Each of base angle = 45°
Vertex angle = 90°
$\Rightarrow$ 45°, 45° & 90°



15. 50 Paise coins = 20
25 Paise coins = 80

Chapter—13

1. (a) $\left(\frac{-2}{3}\right)$ (b) $(-3)^7$

2. (a) $x = 3$ (b) $a = 23$

3.

Column 'A'	(Column 'B'
(a)	(v)
(b)	(iv)
(c)	(i)
(d)	(iii)
(e)	(ii)

4. (a) 3.84×10^5 km
(b) 3×10^8 m/s
(c) 3.4256×10^{-3}

5. (a) 32 (b) 23

6. (a) $\frac{16}{49}$ (b) $\frac{5t^4}{8}$

7. (a) 225 (b) 1

8. (a) 1 (b) 3 (c) 0 (d) 2

9. $\frac{1}{(-19)^4}$

10. (a) 1.5×10^9 (b) 5×10^1

11. (a) m = 5 (b) m = 3

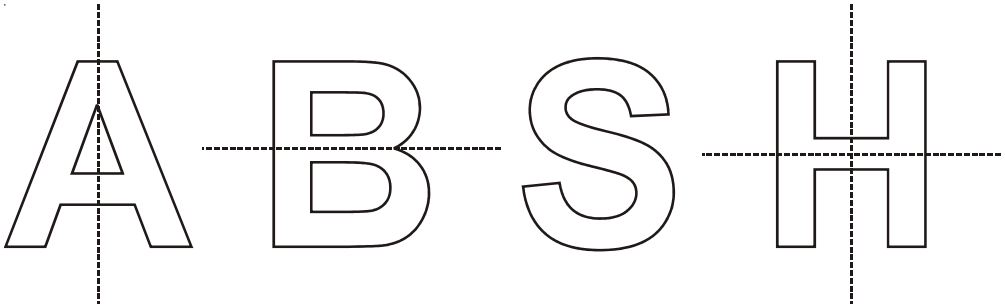
12. $7 \times 10^4 + 3 \times 10^3 + 9 \times 10^2 + 8 \times 10^1 + 4 \times 10^\circ$

Chapter—14

1. (i) Centre of rotation (ii) Infinite or uncountable
(iii) 2, 2 (iv) Quadrilateral

2. (i) False (ii) False (iii) Trure (iv) False

3.



4. (i) 1 (ii) 2, 2 (iii) 0, 1 (iv) 4, 4

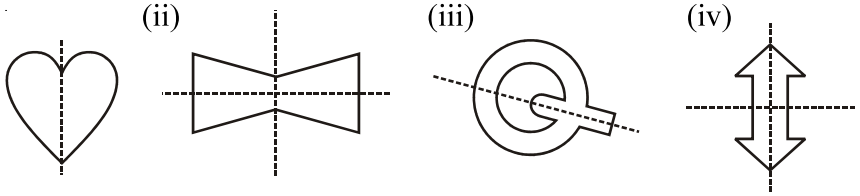
5. 9

6. Centroid

7. 4, 4

8. 4, 90°

9. (i) (ii) (iii) (iv)



10. (i) No (ii) Yes (iii) No (iv) Yes

Chapter—15

1. (i) 6 (ii) 4 (iii) 7

2. 6

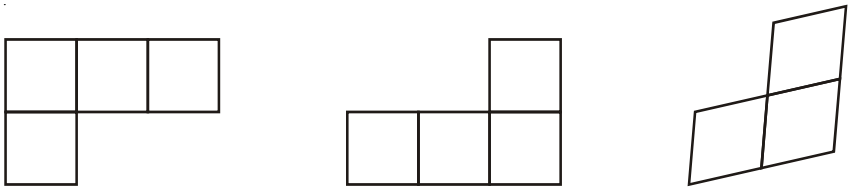
3. (i) False (ii) True (iii) False (iv) True

4. (i) Cone (ii) O (iii) Sphere (iv) Edge

5.

	No. of faces	*No. of edes*	*No. of vertices*
(i)	7	15	10
(ii)	5	8	5
(iii)	5	9	6
(iv)	7	15	10

6. Top view Front view Side view



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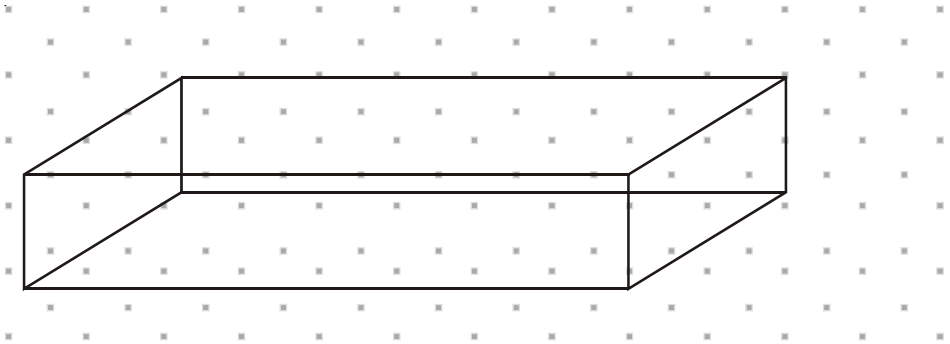

8. (i) EF
   (ii) ABFE, BFGC
   (iii) AE, BF, AD, BC
   (iv) A, E, C, B (Group of pains may differ)