Answers

Practice Set 1

1. (1) Collinear points: (i) point M, point O, point T (ii) point R, point O, point N
   (2) ray OM, ray OP, ray ON, ray OT, ray OS, ray OR
   (3) seg MT, seg RN, seg OP, seg ON, seg OT, seg OS, seg OR, seg OM
   (4) line MT, line RN
2. line l, line AB, line AC, line AD, line BC, line BD, line CD
3. (i) ↔ (c), (ii) ↔ (d), (iii) ↔ (b), (iv) ↔ (a)
4. Parallel lines: (i) line b, line m, line q (ii) line a, line p
   Concurrent lines: (i) line a, line b, line c, line AC (ii) line p, line q, line AD
   Point of concurrence : Point A, Point D

Practice Set 2

1. (1) ↔ (b), (2) ↔ (c), (3) ↔ (d), (4) ↔ (a)
2. (1) acute angle (2) zero angle (3) reflex angle (4) complete angle
   (5) straight angle (6) obtuse angle (7) obtuse angle (8) right angle
3. (a) acute angle (b) right angle (c) reflex angle (d) straight angle (e) zero angle
   (f) complete angle

Practice Set 3

Practice Set 4

1. Negative numbers: −5, −2, −49, −37, −25, −4, −12
   Positive numbers: +4, 7, +26, 19, +8, 5, 27
2. Shimla: −7 °C, Leh : −12 °C, Delhi : +22 °C, Nagpur : +31 °C
3. (1) −512 m (2) 8848 m (3) 120 m (4) −2 m

Practice Set 5

1. (1) 14 (2) 6 (3) −1 (4) −5 (5) −8 (6) −7
2.

+	8	4	−3	−5
−2	−2 + 8 = +6	2	−5	−7
6	6 + 8 = 14	10	3	1
0	0 + 8 = 8	4	−3	−5
−4	−4 + 8 = 4	0	−7	−9

Practice Set 6

✸

Numbers	47	+52	−33	−84	−21	+16	−26	80
Opposite Numbers	−47	−52	+33	+84	+21	−16	+26	−80

Practice Set 7

✸

(1) −4 [<] 5	(2) 8 [>] − 10	(3) + 9 [=] + 9	(4) −6 [<] 0
(5) 7 [>] 4	(6) 3 [>] 0	(7) −7 [<] 7	(8) −12 [<] 5
(9) −2 [>] −8	(10) −1 [>] −2	(11) 6 [>] −3	(12) −14 [=] −14

Practice Set 8

✸

−	6	9	−4	−5	0	+7	−8	−3
3	−3	−6	7	8	3	−4	11	6
8	2	−1	12	13	8	1	16	11
−3	−9	−12	1	2	−3	−10	5	0
−2	−8	−11	2	3	−2	−9	6	1

Practice Set 9

1. (i) $\frac{37}{5}$ (ii) $\frac{31}{6}$ (iii) $\frac{19}{4}$ (iv) $\frac{23}{9}$ (v) $\frac{12}{7}$

2. (i) $4\frac{2}{7}$ (ii) $1\frac{3}{4}$ (iii) $1\frac{3}{12}$ or $1\frac{1}{4}$ (iv) $1\frac{3}{8}$ (v) $5\frac{1}{4}$ (vi) $2\frac{6}{7}$

3. (i) $\frac{9}{5}$ kg (ii) $\frac{11}{5}$ m

Practice Set 10

1. (i) $8\frac{2}{3}$ (ii) $4\frac{3}{4}$ (iii) $7\frac{12}{35}$ (iv) $5\frac{8}{15}$

2. (i) $2\frac{1}{12}$ (ii) $2\frac{1}{6}$ (iii) $1\frac{1}{40}$ (iv) $4\frac{3}{10}$

3. (1) 6 kg, ₹192 (2) $\frac{4}{15}$ (3) 340 l

Practice Set 11

1. (1) $\frac{5}{6}, \frac{10}{6}$ (2) $\frac{3}{5}, \frac{7}{5}$ (3) $\frac{3}{7}, \frac{10}{7}$

Practice Set 12

1. (i) $\frac{7}{20}$ (ii) $\frac{12}{35}$ (iii) $\frac{20}{81}$ (iv) $\frac{8}{77}$ (v) $\frac{7}{10}$ (vi) $\frac{9}{8}$ (vii) 1 (viii) $\frac{9}{17}$

2. 6 acres

3. 1,80,000

Practice Set 13

1. (i) $\frac{1}{7}$ (ii) $\frac{3}{11}$ (iii) $\frac{13}{5}$ (iv) $\frac{1}{2}$ (v) $\frac{7}{6}$

2. (i) $\frac{8}{3}$ (ii) $\frac{10}{27}$ (iii) $\frac{33}{35}$ (iv) $\frac{77}{48}$

3. $\frac{1}{750}$ part

Practice Set 14

1. Place Value: 70, 8, 0.02
2. (1) 932.697 (2) 739.65 (3) 70.151
3. (1) 83.615 (2) 534.79 (3) 182.819
4. 55.465 km
5. ₹ 486 6. 2.5 kg 7. 30.6 km

Practice Set 15

1. (1) $\frac{3}{5} = \frac{3\times\boxed{2}}{5\times\boxed{2}} = \frac{\boxed{6}}{10} = \boxed{0.6}$ (2) $\frac{25}{8} = \frac{25\times\boxed{125}}{8\times125} = \frac{\boxed{3125}}{1000} = 3.125$

(3) $\frac{21}{2} = \frac{21\times\boxed{5}}{2\times\boxed{5}} = \frac{\boxed{105}}{10} = \boxed{10.5}$ (4) $\frac{22}{40} = \frac{11}{20} = \frac{11\times\boxed{5}}{20\times5} = \frac{\boxed{55}}{100} = \boxed{0.55}$

2. (1) 0.75 (2) 0.8 (3) 1.125 (4) 0.85 (5) 0.9 (6) 0.28 (7) 0.095

3. (1) $\frac{275}{10}$ (2) $\frac{7}{1000}$ (3) $\frac{908}{10}$ (4) $\frac{3915}{100}$ (5) $\frac{312}{100}$ (6) $\frac{704}{10}$

Practice Set 16

1. 14.265 2. 10.9151 3. (1) 3.78 (2) 24.063 (3) 1.14 (4) 3.528

4. 94.5 kg, ₹ 3969 5. 2.25 m

Practice Set 17

1. (1) 2.4 (2) 3.5 (3) 10.3 (4) 1.3 2. 1000 trees or 1002 trees

3. 0.425 km 4. ₹ 38000

Practice Set 18

* (1) Temperature on vertical line, Cities on horizontal line (2) Chandrapur
  (3) Panchgani and Matheran, Pune and Nashik (4) Pune and Nashik
  (5) 10 °C

Practice Set 19

Practice Set 20

1. Figures having more than one axis of symmetry (1), (2) and (4)
2. Letters with an axis of symmetry : A, B, C, D, E, H, I, K, M, O, T, U, V, W, X,Y
   Letters having more than one axis of symmetry : H, I, O, X

Practice Set 21

Practice Set 22

* Basket of 3 : 111, 369, 435, 249, 666, 450, 960, 432, 999, 72, 336, 90, 123, 108
  Basket of 4 : 356, 220, 432, 960, 72, 336, 108
  Basket of 9 : 369, 666, 450, 432, 999, 72, 90, 108

Practice Set 23

(1) Factors of 12 : 1, 2, 3, 4, 6, 12
    Factors of 16 : 1, 2, 4, 8, 16
    Common Factors : 1, 2, 4

(2) Factors of 21: 1, 3, 7, 21
Factors of 24: 1, 2, 3, 4, 6, 8, 12, 24
Common Factors: 1, 3

(3) Factors of 25: 1, 5, 25
Factors of 30: 1, 2, 3, 5, 6, 10, 15, 30
Common Factors: 1, 5

(4) Factors of 24: 1, 2, 3, 4, 6, 8, 12, 24
Factors of 25: 1, 5, 25
Common Factor: 1

(5) Factors of 56: 1, 2, 4, 7, 8, 14, 28, 56
Factors of 72: 1, 2, 3, 4, 6, 8, 9, 18, 24, 36, 72
Common Factors: 1, 2, 4, 8

Practice Set 24

1. (1) 15 (2) 16 (3) 1 (4) 7 (5) 24 (6) 9 (7) 12 (8) 25 (9) 6 (10) 75
2. 3 metres 3. 4 metres 4. 28 students
5. 90 kg, 29 bags of basmati, 22 bags of Indrayani

Practice Set 25

1. (1) 45 (2) 30 (3) 84 (4) 60 (5) 88
2. (1) 100 children (2) 240 beads (3) 360 laddoos (4) 120 seconds
   (5) $\frac{65}{225}$, $\frac{66}{225}$, $\frac{131}{225}$

Practice Set 26

✸ $16 \div 2 = 10 - 2$, $5 \times 2 = 37 - 27$, $9 + 4 = 6 + 7$,
$72 \div 3 = 8 \times 3$, $4 + 5 = 19 - 10$

Practice Set 27

1. (1) $x + 3$ (2) $x - 11$ (3) $15x$ (4) $4x = 24$
2. (1) Subtract 9 from both sides. (2) Add 4 to both sides.
   (3) Divide both sides by 8. (4) Multiply both sides by 6.
3. (1) No (2) Yes (3) Yes (4) No
4. (1) y = 6 (2) t = 3 (3) x = 13 (4) m = 23 (5) p = 36 (6) x = – 5
   (7) m = – 7 (8) p = – 5
5. (1) 210 sheep (2) 19 bottles, 4750 gm, that is, 4.75 kg (3) 50 kg

Practice Set 28

1. (1) 3:7 (2) 9:7 (3) 4:5 (4) 7:5 (5) 7:13 (6) 11:9

2. (1) $\frac{5}{8}$ (2) $\frac{1}{3}$ (3) $\frac{1}{4}$ (4) $\frac{5}{4}$ (5) $\frac{9}{4}$ (6) $\frac{4}{1}$ (7) $\frac{3}{5}$ (8) $\frac{3}{2}$ (9) $\frac{5}{4}$

3. $\frac{4}{3}$ 4. $\frac{3}{5}$ 5. $\frac{4}{11}$ 6. (1) $\frac{1}{3}$ (2) $\frac{6}{7}$ (3) $\frac{5}{17}$

Practice Set 29

* (1) ₹ 2880 (2) ₹ 260 (3) ₹ 5136 (4) 216 kg (5) 6 hours, 440 km
(6) 76 litres (7) 5600 kg (8) 208 trees (9) 4 ponds, ₹ 72000

Practice Set 30

* (1) 92% (2) 70%, 30% (3) 14625 sq.m. (4) 4 messages (5) 96%
(6) The proportion of women was greater in Jambhulgaon.

Practice Set 31

1. (1) Profit ₹ 500 (2) Loss ₹ 10 (3) Profit ₹ 99 (4) Loss ₹ 80
2. ₹ 400 Profit 3. ₹ 225 Profit 4. ₹ 7050 5. ₹ 50 Loss 6. ₹ 200 Loss 7. ₹ 1500 Profit

Practice Set 32

1. Loss ₹ 50 2. Profit ₹ 8000 3. Loss ₹ 150 4. ₹ 941 5. Each ₹ 14500
6. Profit ₹ 9240

Practice Set 33

1. Transaction with the shirt was more profitable 3. 25% Profit
2. Shamrao's transaction was more profitable

Practice Set 34

1. 75% Profit 2. 5% Loss 3. $16\frac{2}{3}$ % Profit 4. $7\frac{1}{2}$ % Profit 5. $11\frac{1}{9}$ % Profit
6. 20% Loss

Practice Set 35

1. ₹ 600 2. ₹ 9169 3. ₹ 28000 4. ₹ 2115

Practice Set 36

1. Right angle, Obtuse angle, Acute angle 2. Equilateral, Scalene, Isosceles
3. Road AC is shorter because the sum of the lengths of any two sides of a triangle is always greater than the third side.
4. (1) Scalene triangle (2) Isosceles triangle (3) Equilateral triangle (4) Scalene triangle
5. Triangles can be drawn. (2), (5), (6) Triangles cannot be drawn. (1), (3), (4)

Practice Set 37

✸ (1) Pentagon (2) Hexagon (3) Heptagon (4) Octagon

Practice Set 38

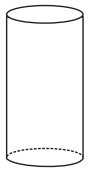
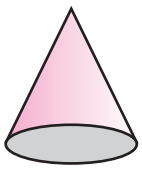
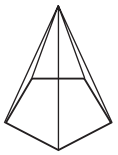
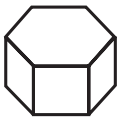
1. (1) $\angle X$ and $\angle Z$, $\angle Y$ and $\angle W$ (2) seg XY and seg ZW, seg XW and seg YZ
   (3) seg XY and seg YZ, seg YZ and seg WZ; seg WZ and seg XW, seg XW and seg XY
   (4) $\angle X$ and $\angle Y$, $\angle Y$ and $\angle Z$, $\angle Z$ and $\angle W$, $\angle X$ and $\angle W$ (5) Diagonal XZ and Diagonal YW
   (6) $\square$YZWX, $\square$ZWXY, $\square$XYZW etc.
2. Quadrilateral – 4, Octagon – 8, Pentagon – 5, Heptagon – 7, Hexagon – 6 5. 720°

Practice Set 39

Practice Set 40

Practice Set 41

✸

Name	Cylinder	Cone	Pentagonal pyramid	Hexagonal pyramid	Hexagonal prism	Pentagonal prism
Shape						
Faces	1 curved	1 curved 1 flat	6	7	8	7
Vertices	0	1	6	7	12	10
Edges	2 circular	1 circular	10	12	18	15