

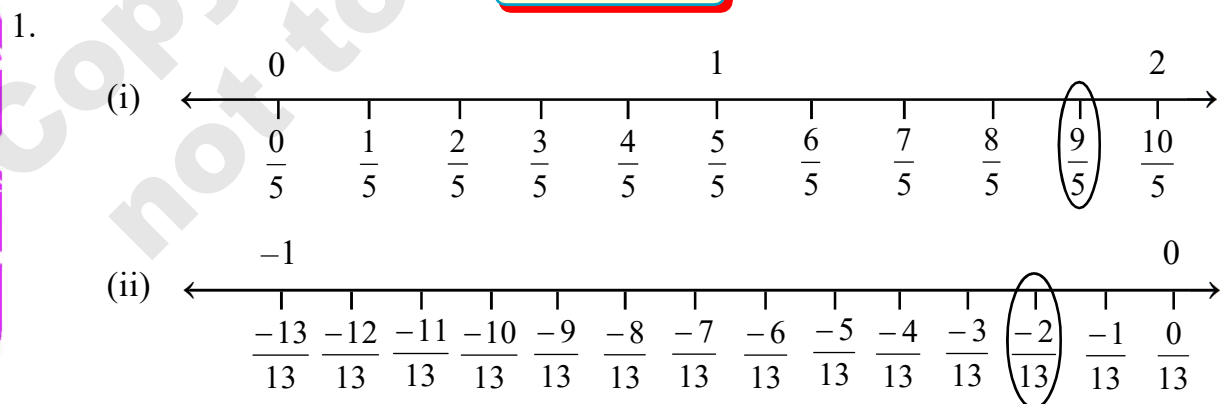


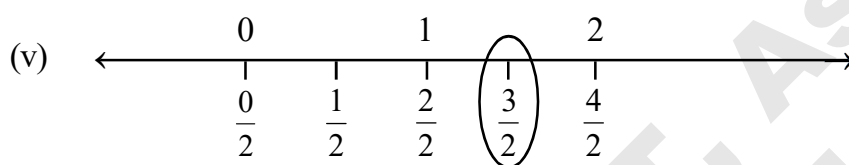
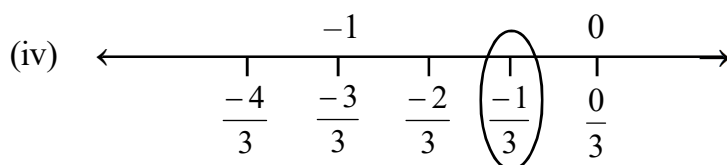
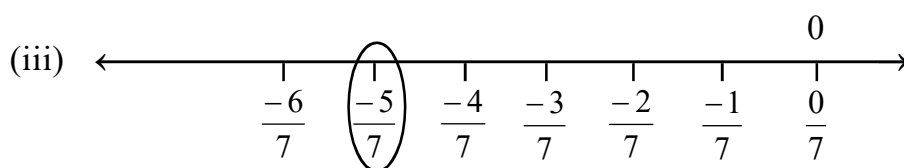
ANSWERS

Exercise 1.1

1. (i) True (ii) False (iii) False (iv) True (v) True (vi) True
(vii) False (viii) False (ix) False (x) True
2. (i) $\frac{7}{9}$ (ii) -3 (iii) $\frac{2}{8}$ (iv) $\frac{19}{7}$ (v) $\frac{a}{c}$
3. $\frac{20}{11}$ and $-\frac{5}{6}$ 4. (i) $-\frac{1}{13}$ (ii) $\frac{63}{8}$ (iii) $-\frac{5}{4}$ (iv) -1
- (v) $\frac{5}{2n}$ 5. No. Because $-1\frac{2}{3} \times \frac{5}{3} \neq 1$ 6. $1, -1$
7. $-\frac{9}{4}$ and $\frac{16}{11}$ 8. (i) $\frac{3}{2}$, (ii) $-\frac{12}{5}$ 9. 1 and -1
10. $-\frac{5}{2}$ 11. (i) Commutative Law (ii) Additive Inverse (iii) Multiplicative Inverse
12. (i) $\frac{61}{35}$ (ii) $\frac{21440}{33}$ (iii) $\frac{21}{40}$ (iv) $\frac{1}{5}$ (v) $\frac{11}{6}$
(vi) $-\frac{64}{315}$ (vii) $-\frac{1}{2}$

Exercise 1.2





Exercise 2.1

1. (i) 4 (ii) 3 (iii) 2 (iv) 49
 (v) 1 (vi) -60 (vii) 1 (viii) $\frac{11}{8}$
 (xi) $\frac{21}{2}$ (x) $-\frac{1}{12}$ (x) $-\frac{2}{3}$ (xii) $\frac{2}{3}$
2. (i) $x = 2$ (ii) $y = -1$ (iii) $y = 5$ (iv) $x = 1$
 (v) $x = \frac{1}{3}$ (vi) $p = 4$
3. (i) -3 (ii) -9 (iii) $\frac{10}{11}$ (iv) -25
 (v) 7 (vi) 4 (vii) -7 (viii) 1
 (xi) 36 (x) $-\frac{7}{2}$ (xi) 19 (xii) $\frac{4}{3}$
 (xiii) 9 (xiv) $-\frac{10}{3}$ (xv) $\frac{6}{5}$ (xvi) -20

Exercise 2.2

1. 30, 42
2. 14, 15, 16
3. Rs.2500, Rs.5000 and Rs. 10,000
4. Length = 94 meter
Breadth = 46 meter
5. 45
6. 8 cm, 10 cm, 11 cm
7. 12
8. 15, 16, 17
9. 12, 13, 14
10. 6 years
11. Raj 40 years
Rashmi 20 years
12. 4 nos. of Rs.50, 15 nos. of Rs.20
13. 26
14. 45
15. $-\frac{1}{10}$
16. 5 Hours
17. Rs. 320
18. $\frac{5}{9}$
19. $\frac{2}{7}$
20. Rohan 12 years
Mother 37 years
21. Rs.100000
22. 725

MCQ

1. (c)
2. (c)
3. (d)
4. (b)
5. (b)
6. (a)
7. (b)
8. (d)
9. (b)
10. (c)
11. (b)
12. (d)
13. (b)
14. (a)
15. (c)

Exercise 3.1

2. (i) 9 (ii) 20 (iii) 27 (iv) 35
3. (i) 720° , 120° (ii) 1260° , 140° (iii) 1800° , 150°
4. (i) 105° (ii) $a = 108^\circ$, $b = 72^\circ$ (iii) $a = 150^\circ$, $b = 100^\circ$
(iv) $a = 60^\circ$, $b = 50^\circ$ (v) $a = 30^\circ$, $b = 110^\circ$
5. 12 6. 18°
7. (i) 6 (ii) 10 (iii) 15 (iv) 8 (v) 24
8. (i) 1800° (ii) 2160° (iii) 3240° (iv) 3960° (v) 4140°
9. (i) True (ii) False (iii) False (iv) True (v) True

Excercise 3.2

1. (i) $9 = 95^\circ$ (ii) $a = 75^\circ, b = 105^\circ, c = 75^\circ$ (iii) $a = 30^\circ, b = 30^\circ$
 (iv) $a = 6, b = 4$ (v) $a = 17, b = 8, c = 15$ (vi) $a = 115^\circ, b = 75^\circ, c = 115^\circ$
 (vii) $x = 5, y = 5$ (viii) 18 (ix) 21
 (x) 37° (xi) $x = y = 56^\circ$ (xii) $x = 80^\circ$
2. $80^\circ, 100^\circ, 80^\circ, 100^\circ$ 3. $75^\circ, 105^\circ, 75^\circ, 105^\circ$ 4. $b = 83^\circ$
5. $x = 2, AC = 10$ 6. $x = 5, AO = 8, BO = 8$ 7. $x = 15^\circ$
8. 70 9. $56^\circ, 124^\circ, 56^\circ, 124^\circ$ 10. 9 ଟେ ମି
11. $DC = AD = 13$ 12. 8
15. 90° 16. $60^\circ, 80^\circ, 100^\circ, 120^\circ$

Excercise 5.1

1.

Colour	Tally	Frequency
W		11
R		11
B		14
Y		10
	Total	46

2.

Class Interval	Tally	Frequency
110 - 120		4
120 - 130		6
130 - 140		3
140 - 150		10
150 - 160		3
160 - 170		1
170 - 180		5
180 - 190		3
	Total	35

3. (i) 140-150 (ii) 12 Nos. (iii) 130-140, 150-160 and 180-190
4. (i) 4-5 Hours (ii) 24 Nos. (iii) 22 Nos.
- 5.

Height	Tally	Frequency
135 - 145		11
145 - 155		7
155 - 165		8
165 - 175		2
175 - 185		2
	Total	30

Exercise 5.2

1. Cricket = 120° , Football = 120° , Kabaddi = 72° , Badminton = 60°
2. (i) 250 Nos. (ii) 50 (iii) Bicycle
- 3.

Sixth	60°
Seventh	70°
Eight	100°
Ninth	40°
Tenth	90°

4. (i) 30 Nos (ii) Story, 45 nos. (iii) 76 nos.
5. Mango = 108° , Jackfruit = 180° , Guava = 72°

Excercise 5.3

- (i) Expected outcomes may be any one among a, b, c and d
(ii) Expected outcomes may be —
 a and b, a and c, a and d, b and c, b and d, c and d
- Head (H) and Head (H); Head (H) and Tail (T); T and H; H and T.
- Probability of getting (i) Violet coloured pencil is $\frac{1}{3}$, (ii) Blue coloured pencil is $\frac{1}{4}$
- (i) 1, 4, (ii) 3, 5, (iii) Events that do not have any outcomes, (iv) 2, 3, 5 (v) 3, 5 (vi) 2
- Probability of getting (i) Red Marble is $\frac{1}{2}$ (ii) Blue Marble is $\frac{1}{3}$
(iii) Yellow Marble is $\frac{1}{6}$
(iv) Blue or Yellow Marble is $\frac{1}{2}$

Excercise 6.1

- 14 Nos 2. (i) 1 (ii) 1 (iii) 5 (iv) 0 (v) 9
- Numbers having either of 2, 3, 7 or 8 in its unit's place cannot be a Square number. (v) as total numbers of digit 0 present in the number is odd
- (i) $4^2 = 16$ (ii) $8^2 = 64$ (iii) $13^2 = 169$
- $1 + 3 + 5 + 7 + 9 + 11$

Excercise 6.2

- (i) 1225 (ii) 3025 (iii) 9025
- 10, 24, 26

Excercise 6.3

- (i) True (ii) True (iii) False (iv) True
- (i) 1 or 9 (ii) 4 or 6 (iii) 5 (iv) 0
- (i) 16 (ii) 27 (iii) 88 (iv) 72
(v) 110 (vi) 77 (vii) 94 (viii) 65
- (i) 15 (ii) 5 (iii) 6 (iv) 7
- (i) 30 (ii) 3
- (i) 7, 24 (ii) 2, 168
- 32, 32
- 7 Nos.

Exercise 6.4

1. (i) 2 (ii) 3 (iii) 4
2. (i) 26 (ii) 29 (iii) 34 (iv) 45 (v) 52
 (vi) 67 (vii) 90 (viii) 121 (ix) 123 (x) 148
3. (i) 7.2 (ii) 8.9 (iii) 9.9
 (iv) 1.2 (v) 2.5 (vi) 31.2
4. 7 Meter
5. 33 No
6. (i) 5 (ii) 14 (iii) 25 (iv) 9
7. (i) 41 (ii) 6 (iii) 1 (iv) 21
8. 4624

Exercise 7.1

1. (a) Not Perfect cube (b) Perfect Cube (c) Not Perfect cube
 (d) Perfect Cube (e) Not Perfect cube (f) Perfect Cube
2. (a) 5 (b) 2 (c) 10 (d) 3
3. (a) 7 (b) 2 (c) 9 (d) 100
4. (a) Divide by 2 (b) Multiply by 5 (c) Multiply by 2 (d) Divide by 3 (e) Divide by 7

Exercise 7.2

1. (i) (c) (ii) (b) (iii) (b) (iv) (b) (v) (c)
2. (i) 5 (ii) 7 (iii) 14 (iv) 22 (v) 16
 (vi) 33 (vii) 60 (viii) 21 (ix) 28 (x) 19

Exercise 8.1

1. Profit = ₹ 10 , % of Profit = 4% 2. ₹ 69 3. ₹ 16875
4. Loss 20% 5. ₹ 5600 6. Loss 6% 7. Cost Price = ₹ 826.32
8. Profit 10% 9. Loss 1%

Exercise 8.2

- | | | |
|---------------------------|----------------------|------------|
| 1. ₹ 1800 | 2. ₹ 211.11(Approx) | 3. 10% |
| 4. 16.7% | 5. Rs. 1400 | 6. 13.04% |
| 7. ₹ 750 | 8. 12.5% | 9. ₹ 3000 |
| 10. Selling Price = ₹ 336 | Total Discount = 44% | |
| 11. ₹ 4,73,550 | 12. 30% | 13. ₹ 1550 |

Exercise 8.3

- | | |
|-----------------------|------------------|
| 1. Amount = ₹ 318.27 | C. I. = ₹ 18.27 |
| 2. Amount = ₹ 4244.80 | C. I. = ₹ 244.80 |
| 3. Amount = ₹ 10816 | C. I. = ₹ 816 |
| 4. Amount = ₹ 7649 | C. I. = ₹ 649 |
| 5. Amount = ₹ 1815 | C. I. = ₹ 315 |
| 6. Amount = ₹ 1041.86 | C. I. = ₹ 141.86 |
| 7. Amount = ₹ 122.41 | |

Exercise 8.4

- | | |
|----------------------------|---|
| 1. Amount = ₹ 318.27 | C. I. = ₹ 18.27 |
| 2. Amount = ₹ 4244.80 | C. I. = ₹ 244.80 |
| 3. Amount = ₹ 10816 | C. I. = ₹ 816 |
| 4. Amount = ₹ 7649. | C. I. = ₹ 649 |
| 5. Amount = ₹ 1815 | C. I. = ₹ 315. |
| 6. Amount = ₹ 1041.86 | C. I. = ₹ 141.86 |
| 7. C. I. = ₹ 30.30 | 8. C. I. = ₹ 122.41 |
| 9. Principal = ₹ 4160.50 | 10. Rate of Interest = $4\frac{1}{6}\%$ |
| 11. Rate of Interest = 25% | 12. Difference in interest = ₹ 5 |
| 13. Principal = ₹ 625 | 14. Amount = ₹ 5463.12 |

Exercise 8.5

- Discount = ₹ 12,000 , S.P. = ₹ 48,000 , CGST = 0, SGST = 0, IGST = 28% of 48,000 = ₹ 13,440 and Amount of Bill = ₹ 61,440
- S. P. = ₹ 63,000; SGST = ₹ 5670; CGST = ₹ 5670; IGST = 0, and Amount of Bill = ₹ 74,340 .
-

Commo- dity/Item	Number of Item(s)	(MRP)	Total	Discount	Amount of discount	SP	CGST 2.5%	SGST 2.5%
A	12	50	600	10%	60	540	13.50	13.50
B	30	60	1800	15%	270	1530	38.25	38.25
C	10	35	350	12%	42	308	7.70	7.70
D	6	15	90	10%	9	81	2.025	2.025
						2459	61.475	61.475

$$\begin{aligned}\text{Bill Amount} &= \text{S.P.} + \text{CGST} + \text{SGST} \\ &= 2459 + 61.475 + 61.475 = \text{Rs. } 2581.95 = \text{Rs. } 2582\end{aligned}$$

Exercise 9.1

- $22x^3y^3$
 - $45a^3x^2$
 - $-45p^4q^6$
 - $15x^3 + 24x$
 - $12y^3 - \frac{2}{3}y^2$
 - $-8a^4 - 24a^3b - 16a^3c$
 - $-6m^3n^2 + 4m^2n^2$
 - $99x^3 + 44x^2 + 33x$
 - $21b^4 - 7ab^3 - 140a^2b^2$
 - $3x^4y^3 + 3x^4y^5 - 6x^3y^2$
- $3x^4y + 2x^2y^2 - y^3$
 - $14x^2 + 45xy - 14y^2$
 - $\frac{1}{4}a^5 + \frac{1}{6}a^2b^2 + 3a^3b + 2b^3$
 - $3.75x^2 - 8.5xy + 3.75y^2$
 - $6x^3 + 11x^2y + 4xy^2 + 12y^2 + 9xy$
 - $2x^6y^5 - 2x^4y^3 + 2x^2y^2 + 5x^7y^4 - 5x^5y^2 + 5x^3y$

$$(vii) 3a^5b^5 + 6a^6b^5c^3 - 22a^3b^3c - 8a^4b^3c^4 + 24abc^2$$

$$(viii) 12x^5y^2 - 15x^4y^3 + 9x^4y^2 - 8x^2y + 10xy^2 - 6xy$$

$$(ix) 10x^2 + 6y^2 + 19xy + 2yz + 5zx + 2x + 3y + z$$

$$(x) 9x^6 - 4y^4 + 4y^2z - z^2$$

$$3. (i) 15x^2 + 14x \quad (ii) -4m^2n - 6m^3n$$

$$(iii) 24a + 32b + 5 \quad (iv) 8x^3 + x^2 - 9x$$

$$4. (i) -p^2 + q^4 + 15 \quad (ii) a^3 + 2b^3$$

$$(iii) y^5 + 5xy^2 + y^3 \quad (iv) \frac{1}{9}xy^3$$

$$(v) 2y^4 - 2y^2 - 2y - 1 \quad (vi) 3l^2 - 6.01lm + 1.5l - 0.5m^2 + 4m$$

Exercise 9.2

$$1. (i) x^2 + 12x + 35 \quad (ii) 49x^2 + 56xy + 12y^2$$

$$(iii) 16x^6 + 72x^3 + 80 \quad (iv) 16k^4 - 40k^3 + 21k^2$$

$$(v) \frac{a^2}{4} + \frac{a}{8} - \frac{1}{8} \quad (vi) \frac{n^4}{25} + \frac{n^2}{5} - 0.96$$

$$(vii) 9506 \quad (viii) 252003$$

$$2. (i) x^2 + 10x + 25 \quad (ii) 25x^2 + 40xy + 16y^2$$

$$(iii) 9a^6 + 24x^5 + 16a^4 \quad (iv) 9x^2 + \frac{1}{9x^2} + 2$$

$$(v) \frac{p^2}{q^2} + \frac{q^2}{p^2} + 2 \quad (vi) 252004$$

$$(vii) 90.25 \quad (viii) 17\frac{1}{64}$$

$$3. (i) x^2 - 14x + 49 \quad (ii) 36x^2 - 60x + 25$$

$$(iii) 100x^4 - 60x^2y + 9y^2 \quad (iv) p^4 - 2p^2q^2 + q^4$$

$$(v) a^4x^2 - 2a^3x^3 + a^2x^4 \quad (vi) x^4 + \frac{1}{x^4} - 2$$

$$(vii) 87616 \quad (viii) 3996001$$

$$4. (i) y^2 - 121 \quad (ii) 4x^2 - 9$$

$$(iii) m^4 - 36 \quad (iv) a^2x^4 - b^2y^2$$

$$(v) 1 - x^{2m} \quad (vi) 3599$$

$$(vii) 9964 \quad (viii) 80.75$$

5. (i) $9x^2 - 30xm + 25m^2$ (ii) $16m^2 + 20m + 6$
 (iii) $16n^2 + 72n + 81$ (iv) $36x^2 + 20x + 1$
 (v) $16a^2b^2 - c^2$ (vi) $\frac{x^2}{4}$
 (vii) $\frac{a^4}{4} + \frac{a^2b^2}{4} + \frac{b^4}{16}$ (viii) $0.25x^4 - 0.2x^2y^2 + 0.04y^4$
 (ix) $y^6 - 81x^4$ (x) $\frac{y^4}{4} + y^2 - 24$
 (xi) $49x^4 + \frac{14}{3}x^2 + \frac{1}{9}$ (xii) $x^2 + y^2 - z^2 + 2xy$
 (xiii) 1000998 (xiv) 104.04
 (xv) 6241 (xvi) 35.96
6. (i) $2x^2 + 3 + \frac{1}{x^2}$ (ii) $8lm$
 (iii) $a^4b^2 - 4a^3b^3 + a^2b^4$ (iv) 0
 (v) $-100ab$ (vi) $20p^4 - 20p^2q^2$
 (vii) $3x^2 + 10$ (viii) $\frac{28}{9}x^2 + 3xy$
 (ix) $\frac{4x^2}{25}$ (x) 9
 (xi) 3 (xii) 8
8. (i) $(x^2 + 13x + 40)$ sq. meter
 (ii) $(4x^2 + x + \frac{1}{16})$ sq. meter
 (iii) $(10x + 25)$ sq. meter
 (iv) Rs. 49755
 (v) 89559 sq. meter
 (vi) 7, 47
 (vii) 6, 34
 (viii) 12

Exercise 10.1

- | | | |
|--------------------------|----------------|------------------|
| (a) (i) Front view | (ii) Side view | (iii) Top view |
| (b) (i) Front view | (ii) Side view | (iii) Top view |
| (c) (i) Top view | (ii) Side view | (iii) Front view |
| (d) (i) Top view | (ii) Side view | (iii) Front view |
| (e) (i) Front view | (ii) Top view | (iii) Side view |
| (f) (i) Complete weigh | (ii) Top view | (iii) Front view |
| (g) (i) Complete house | (ii) Side view | (iii) Front view |
| (iv) Top view | | |
| (h) (i) Complete dustbin | (ii) Top view | |

Exercise 10.2

1. 30 2. 8

Exercise 11.1

- 1.(a) 36 sq.cm 1.(b) 130 sq.cm 2. 7cm 3. 195 sq.m
4. 70 sq.cm 5. 20 cm 6. 72 sq.cm 7. 6.2 cm
8. 44 m 9. 51 sq.cm 10. 4 cm 11. 1300 sq.cm 12. (a) 49 sq.cm
12.(b) 101 sq.cm 12.(c) 462 sq.cm 12.(d) 91.5 sq.cm 12.(e) 770 sq.cm
13. 24 sq.cm 14. 120 sq.cm 15. 6 cm 16. 10 cm sq. and 20 cm

Exercise 11.2

1. 4374 sq.cm 2. 90 sq.m 3. 10 sq.m 4. 144 m
5. Rs.1188 6. 240 sq.cm 7. 350 sq.cm 8. 1 cm
9. Rs. 1408 10. 302.5 sq.cm 11. Rs. 3696

Exercise 11.3

1. 2 m 2. 10 m 3. 5 cm 4. 450 nos.
5. 594 cubic meter 6. $22\frac{1}{2}$ hr or 22 hr 30 min 7. 11200 cm or 112m
8. 5 cm 9. 6 m 10. 12000 litre 11. 34650 cubic cm
12. 2 : 1 13. 22680 litre 14. radius = 7cm, volume = 2156 cubic cc

Exercise 12.1

1. (i) $\frac{1}{125}$ (ii) $\frac{1}{16}$ (iii) $\frac{1}{-64}$ (iv) $-\frac{3125}{16807}$ (v) $-\frac{16807}{3125}$ (vi) $\frac{1}{6561}$
2. (i) $\left(\frac{7}{5}\right)^3$ (ii) $\frac{1}{2^5 \times 3^2}$ (iii) $\left(-\frac{3}{7}\right)^3$
 (iv) $\left(-\frac{5}{6}\right)^3$ (v) $-\frac{3^3}{2^4 \times 7^2}$ (vi) $\frac{2^7}{3^4}$
3. (i) 3^4 (ii) $-\frac{1}{2^5 \times 3}$ (iii) $\frac{1}{5^{10}}$ (iv) $\frac{1}{3^5 \times 2^{15}}$
4. (i) $-\frac{49}{30375}$ (ii) 54 (iii) 40
 (iv) 1 (v) $\frac{1}{60}$ (vi) 729
5. (i) 3^{-4} (ii) $\left(\frac{3}{2}\right)^6$ (iii) $\left(-\frac{9}{4}\right)^{50}$
 (iv) $\left(\frac{3}{4}\right)^5$ (v) $\left(-\frac{2}{3}\right)^7$ (vi) $\left(\frac{3}{8}\right)^4$
6. (i) $\left(-\frac{4}{5}\right)^6$ (ii) $\left(\frac{3}{5}\right)^5$ (iii) $\left(-\frac{5}{3}\right)$
 (iv) $\left(\frac{2}{3}\right)^{24}$ (v) $\frac{1}{3^8}$
7. (i) 1 (ii) 2 (iii) 10 (iv) 2
8. (i) $3^3 \times 5^5$ (ii) 3^{10k-4} (iii) 5^5 (iv) $\frac{5^4 \times l^4}{2}$ (v) 1
9. (i) $1 \times 10^4 + 5 \times 10^3 + 7 \times 10^2 + 3 \times 10^1 + 7 \times 10^0 + 3 \times 10^{-1} + 4 \times 10^{-2} + 8 \times 10^{-3}$
 (ii) $3 \times 10^4 + 5 \times 10^3 + 7 \times 10^2 + 9 \times 10^1 + 2 \times 10^0 + 3 \times 10^{-1} + 9 \times 10^{-2}$

Exercise 12.2

1. (i) 3.57×10^7 (ii) 7.0503×10^8 (iii) 3.78×10^4
(iv) 5.3628×10^9 (v) 4.0032×10^8
2. (i) 3.82×10^{-8} (ii) 9.057×10^{-8} (iii) 7.56×10^{-6}
(iv) 2.3×10^{-6} (v) 3.14×10^{-7}
3. (i) 702000 (ii) 39720000 (iii) 100100000
(iv) 0.00000003 (v) 0.0000021 (vi) 0.0000309
4. (i) 3×10^5 km (ii) 1.4335×10^{12} m (iii) 6.023×10^{23}
(iv) 1.5×10^{-8} cm (v) 5×10^{-7} m (vi) 3.2×10^{-6} m
(vii) 1×10^{-6} m
5. (i) $8.75 \times 10^5 < 8.75 \times 10^7 < 9.25 \times 10^6 < 9.42 \times 10^6$
6. (i) 3.542×10^{11} (ii) 6.633×10^8
7. (i) 6.4385×10^8 (ii) 3.7224×10^7

Exercise 13.1

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

2.

Time Duration	1 Year	2 Years	3 Years
S.I.	80	160	240
C.I.	80	166.40	259.71

S.I. is directly proportional to time.

3. (i) 45 km (ii) 75 km (iii) 20 km
4. 162.5 m 5. 1190 km 6. Mary 7. 700 bottle
8. 21 cm 9. (i) 6 m (ii) 8 m 75 cm 10. 4 cm

Exercise 13.2

- | | | | |
|----------------|-----------------------|--------------|---------------|
| 1. (i) Yes | (ii) Yes | (iii) Yes | (iv) No |
| 2. 5 Days | 3. (i) 72 Days | (ii) 20 Days | (iii) 15 Days |
| 4. 1 hr 36 min | 5. 168 Nos | 6. 36 Days | 7. 200 Days |
| 8. (i) 14 Days | (ii) 14 Nos of people | | |

(MCQ)

- | | | | | | | | |
|--------|--------|--------|--------|--------|--------|--------|--------|
| 1. (a) | 2. (b) | 3. (c) | 4. (c) | 5. (b) | 6. (a) | 7. (c) | 8. (d) |
|--------|--------|--------|--------|--------|--------|--------|--------|

Exercise 14.1

- | | | |
|--------------------------------|--|---------------------------------|
| 1. (i) $xy(3x + 5)$ | (ii) $5xy(2x - y)$ | (iii) $7abc(a - 3b + 2)$ |
| 2. (i) $(a + b)(a + 6)$ | (ii) $(a + b)(a + c)$ | (iii) $(1 - x)(1 + x^2)$ |
| (iv) $(a + 1)(b + 1)$ | (v) $(a - b)(4x + 3y)$ | |
| 3. (i) $(x + 6)(x - 6)$ | (ii) $(3x + 5)(3x + 5)$ | (iii) $(4a - 11)(4a + 11)$ |
| (iv) $11(x + 2)(x + 2)$ | (v) $(x - 3)(x + 3)(x^2 + 9)$ | |
| (vi) $(2 + x - y)(2 - x + y)$ | (vii) $(x - y)(x + y)(x^2 + y^2)(x^4 + y^4)$ | |
| (viii) $(a - b)(a - b)(a + b)$ | | |
| 4. (i) $(x + 4)(x + 4)$ | (ii) $(x + 5)(3 - x)$ | (iii) $(x - 2)(x + 10)$ |
| (iv) $(x - 1)(x + 3)$ | (v) $(a - 6)(a + 2)$ | (vi) $(x - 8)(x - 13)$ |
| (vii) $2(x + 4)(x + 5)$ | (viii) $(l - 6)(l - 7)$ | (ix) $(4 - a)(a + 5)$ |
| 5. (i) $(x + 2)(3x + 2)$ | (ii) $(m + 3)(2m + 1)$ | (iii) $(p + 4)(2p - 7)$ |
| (iv) $(3a - 1)(3a + 8)$ | (v) $(4y - 3)(y + 7)$ | (vi) $3m^2(m^2 - 5n)(m^2 + 3n)$ |
| (vii) $(1 - 3x)(2x + 1)$ | (viii) $(2a + 3b)(3a - b)$ | |
| 6. (i) $(3x + 4)(3x + 1)$ | (ii) $(3y - 2)(4y - 3)$ | (iii) $(3m - 5)(2m + 3)$ |

Exercise 14.2

1. (i) x^3

(ii) $2p^2$

(iii) $-\frac{9m^2}{n}$

(iv) $\frac{4}{3}pqr^3$

(v) $\frac{-12a^4}{17b^2}$

2. (i) $5y-3$

(ii) $\frac{5}{2}a^4 - 2a^2 + \frac{3}{2}$

(iii) $qr^2 - 2 + 3pqr^2$

(iv) $x^2 - \frac{bx}{a} - \frac{c}{a}$

(v) $n^3 - m^3$

3. (i) 3

(ii) $20m$

(iii) $\frac{14pq}{11}$

(iv) $1092xyz$

4. (i) $x - 5$

(ii) 4

(iii) $9(p - 1)$

(iv) $\frac{p+q}{2}$

(v) $-(x+3)(x^2+9)$

(vi) $x+7$

(vii) $m+9$

(viii) $4y-3$

(ix) $4u+21$

(x) $4y(5y-7)$

5. (i) $\frac{9x^2}{9x^2} = 1$

(ii) $\frac{3x+2}{3x}$

(iii) $\frac{4x^2+1}{4x^2}$

$= \frac{3x}{3x} + \frac{2}{3x}$

$= \frac{4x^2}{4x^2} + \frac{1}{4x^2}$

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

$= 1 + \frac{1}{4x^2}$

(iv) $\frac{7x+5}{5}$

(v) $\frac{4x^2+8x+4}{4}$

$= \frac{7x}{5} + \frac{5}{5}$

$= \frac{4x^2}{4} + \frac{8x}{4} + \frac{4}{4}$

$= \frac{7x}{5} + 1$

$= x^2 + 2x + 1$

Exercise 15.1

- X-axis represents time and Y-axis represents distance covered
 - 375km in 8 hrs.
 - Between 12 noon and 1 PM
 - waited, 1 hr
 - Between 7AM-11AM and 1 PM- 2 PM
- Electricity consumed in last six month
 - Units of Electricity
 - in June
 - September
 - April and August
- 7 Nos
 - Football
 - Badminton
 - Kabaddi and Jump(10Nos.), Running and Music Chair(15 nos.)
- Name of days in a week
 - Saturday
 - Thursday
 - 60 nos

Exercise 15.2

- Abscissa = 0, Ordinate = 4
 - Abscissa = 5, Ordinate = 9
 - Abscissa = 5, Ordinate = 0
 - Abscissa = 7, Ordinate = 7
- in X-axis
 - in Y-axis
 - in X-axis
 - in Y-axis
- in X-axis (8, 0) and in Y-axis (0, 8)
- | | | | |
|-----------|------------|------------|-----------|
| A (1, 1), | B (4, 1), | C (4, 3), | D (1, 3), |
| E (6, 1), | F (9, 1), | G (9, 4), | H (6, 4), |
| L (8, 5), | M (12, 5), | N (10, 8), | P (1, 6), |
| Q (5, 6), | S (3, 8) | | |
- False, (5, 0) lies on X-axis
 - True
 - True

Exercise 15.3

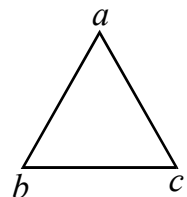
- 6 hr
 - 250 km
 - Rs. 40
 - Rs. 1200

Exercise 16.1

- 5
 - 2
 - 3
 - 2, 3, 9
 - 2, 3
- 4, 6
 - 11
 - 4, 6, 8
 - 11
 - 4
- 7
 - 13
- 2, 5, 8
 - 8
 - 2

Exercise 16.2

- Trick is $a(b + c)$
- Trick is $(a - b)c$
- Trick is $\frac{abc}{10}$



Exercise 16.3

- A = 5, B = 1
 - A = 5
 - A = 4, B = 6
 - A = 7, B = 3
 - A = 2, B = 5, C = 9
 - A = 5, B = 6, C = 1
 - A = 5, B = 0, C = 1
 - A = 5, B = 2
 - A = 9, B = 8, C = 5
 - A = 7, B = 4
 - A = 5, B = 0, C = 2
 - A = 2, B = 5, C = 6



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Let's build a clean Assam

One step toward transparency

Clean life Healthy life
My life is the life of the nation



Garbage should be disposed in dustbins or in a hole. Keeping the locality and surroundings clean is as important as keeping our houses and our school clean.