

Answers

CHAPTER - 1

Exercise 1.1

1. (i) 55,659 (ii) 1,70,009 (iii) 2,25,00,116 (iv) 5, 30, 00, 00350
(v) 29,57,08,09,200 (vi) 27,54,17,25,157
2. (i) Seventy-two thousand one hundred thirty-five.
(ii) Thirty-two lakh fifty-five thousand four hundred seventy-nine
(iii) Seventy-nine crore twenty three lakh fifty-one thousand one hundred seventy-nine
(iv) Seven lakh seventy-two thousand four hundred thirty-nine
(v) Nine crore fifty-five lakh thirty-two thousand seven hundred forty-nine
(vi) Seventeen arab twenty-nine crore fifty-three lakh fourteen thousand seven hundred ninety-one
3. (i) $30000 + 4000 + 0 + 50 + 6$ (ii) $5000000 + 300000 + 90000 + 6000 + 700 + 0 + 9$
(iii) $7000000 + 900000 + 50000 + 3000 + 100 + 10 + 4$
(iv) $80000000 + 7000000 + 600000 + 50000 + 4000 + 300 + 20 + 9$
4. (i) 7427 (ii) 96379 (iii) 876543 (iv) 9600259
5. (i) 60000, 6 (ii) 6000, 6 (iii) 60000000, 6
6. 299970 7. 19998 8. 25,00,000 9. 9,000
10. 90,000 11. 1001 12. 0 and 5 13. 50000
14. 151,161,171,181,191 15. 90,00,000 16. 507,570,705,750 17. 100 thousand
18. 10,000 thousands

Exercise 1.2

1.

Periods	Billions				Millions			Thousands			Units		
Sl. No.	Places	Hundred billions	Ten billions	Billions	Hundred millions	Ten millions	Millions	Hundred thousands	Ten thousands	Thousands	Hundreds	Tens	Ones
i						3	4	8	7	5	6	2	9
ii						4	8	6	3	2	9	5	4
iii				5	8	6	0	4	9	0	3	8	2
iv					9	7	6	4	5	8	2	7	2
v				2	6	3	0	4	8	1	7	5	6

2. (i) 830,476,058 (ii) 586,347,281 (iii) 76,459,832 (iv) 462,863,926
(v) 95,386,329
3. (i) $1,02,394 > 99,887$ (ii) $25,073,24 < 25,17,324$ (iii) $35,72,014 < 1,02,531,04$ (iv) $4,79,83,505 > 4,78,94,012$
4. (i) $65,39,542 < 83,54,208 < 1,23,45,678 < 6,35,47,201 < 10,23,45,694$
(ii) $1,81,888 < 1,90,909 < 18,08,088 < 18,08,090 < 16,060,666$
5. (i) $5,69,44,000 > 5,69,43,300 > 5,69,43,201 > 5,964,437 > 56,95,440$

(ii) $1,021,430 > 1,020,308 > 1,020,216 > 893,425 > 8932,45$.

6. (i) 74,16,491 (ii) 44,38,466 (iii) 8,74,68,971
 7. (i) 9,55,135 (ii) 4,16,846 (iii) 3,83,768
 8. (i) 87,63,210 (ii) 87,64,321 (iii) 98,76,421
 9. (i) 12,34,678 (ii) 12,46,789 (iii) 34,45,678

10. (i) 13,45,788; 34,15,878; 88,75,431
 Smallest = 13,45,788 Greatest = 88,75,431

- (ii) 46,66,788; 66,46,878; 88,76,664
 Smallest = 46,66,788 Greatest = 88,76,664

- (iii) 33,46,778; 66,77,833; 87,76,433
 Smallest = 33,46,778 Greatest = 87,76,433

11. (i) 2,45,688; 4,25,868; 5,48,682; 8,86,542
 Smallest = 2,45,688 Greatest = 8,86,542

- (ii) 1,46,788; 4,16,887; 7,88,164; 8,87,641
 Smallest = 1,46,788 Greatest = 8,87,641

- (iii) 2,27,788; 7,22,788; 7,88,227; 8,87,722
 Smallest = 2,27,788 Greatest = 8,87,722

Exercise 1.3

1. 3,08,429 2. 2.7707 3. 1,43,760; 43,12,800 4. 87,575
 5. 3022 6. ₹ 30,466 7. 2,28,885 8. 18 shirts, 1 m 30 cm cloth
 9. 18,000 toys 10. ₹ 1,66,48,975
 11. For decade of 1990 – 2000 = 12,02,71,612
 For decade of 2000 – 2010 = 6,29,89,327

Exercise 1.4

1. (i) 80 (ii) 100 (iii) 980 (iv) 810
 (v) 1000 (vi) 12100 (vii) 10910 (viii) 28930
 2. (i) 4000 (ii) 7300 (iii) 8100 (iv) 14600
 (v) 28800 (vi) 420400 (vii) 4369000 (viii) 742900
 3. (i) 2000 (ii) 10000 (iii) 4000 (iv) 8000
 (v) 10000 (vi) 26000 (vii) 21000 (viii) 437000
 4. Nearest tens Nearest hundreds Nearest thousands
 (i) 960 1000 1000
 (ii) 1050 1000 1000
 (iii) 45630 45600 46000
 (iv) 79090 79100 79000
 5. (i) ₹ 700 (ii) ₹ 900 (iii) ₹ 3400 (iv) ₹ 9100
 (v) 1300 km (vi) 400 m (vii) 600 cm (viii) 2500 cm
 (ix) 400 g (x) 900 kg (xi) 300 l (xii) 800 mg
 6. 365, 366, 367, 368, 369, 370, 371, 372, 373, 374
 7. Smallest = 850, Greatest = 949
 8. Smallest = 8500, Greatest = 9499.

Exercise 1.5

- | | | | |
|---------------------------------------|----------------|---------------------------------|------------------|
| 1. (i) 6,85,500 | (ii) 58,64,900 | (iii) 86,41,400 | (iv) 16,74,400 |
| 2. (i) 550 | (ii) 6580 | (iii) 1,46,270 | (iv) 86,500 |
| 3. (i) 11,039, Estimated sum = 11,000 | | (ii) 1,52,277 _____ = 1,52,300 | |
| (iii) 1,09,846 _____ = 1,09,800 | | (iv) 1,01,009, _____ = 1,01,010 | |
| 4. (i) 84,77,000 | (ii) 56,42,000 | (iii) 78,65,000 | (iv) 1,62,81,000 |
| 5. (i) 5088 | (ii) 58558 | (iii) 50,000 | (iv) 3200 |
| 6. (i) 69,600 | (ii) 25,900 | (iii) 19,000 | (iv) 93,800 |
| 7. (i) 100 | (ii) 2,46,000 | (iii) 9000 | (iv) 33,000 |
| 8. (i) 2 | (ii) 13 | (iii) 30 | |

Exercise 1.6

- | | | | |
|--|------------------|-----------------|--------------------|
| 1. (i) CXXXVI | (ii) CLIV | (iii) CCLXXVIII | (iv) DCCLXIII |
| (v) MIX | (vi) MDCCCLXXIII | (vii) MMCCCXLIV | (viii) MMMDCCLXXXV |
| 2. (i) 14 | (ii) 37 | (iii) 64 | (iv) 254 |
| (v) 94 | (vi) 172 | (vii) 444 | (viii) 1654 |
| (ix) 5056 | (x) 8490 | (xi) 2640 | (xii) 6449 |
| 3. (i) < | (ii) < | (iii) < | (iv) < |
| 4. (i) (iii), (vii) and x are meaningless. | | | |

Rapid Assessment

- | | | | |
|------------|--------|---------|---------------------|
| A. 1. b | 2. a | 3. c | 4. a |
| 5. c | 6. a | 7. d | 7. a |
| 9. c | 10. c | 11. b | |
| B. 1. 1000 | 2. 100 | 3. 1023 | 4. 10 5. 90000 |
| C. 1. F | 2. T | 3. F | 4. T 5. T |

CHAPTER - 2

Exercise 2.1

- | | | | |
|--|------------------------|--|---------------|
| 1. Do yourself. | | | |
| 2. (i) 1000 | (ii) 87766 | (iii) 7969857 | (iv) 9800024 |
| 3. (i) 98 | (ii). 10798 | (iii) 99999 | (iv) 86787899 |
| 4. (i) 769 | (ii) 9365 | (iii) 5432 | (iv) 7868 |
| (v) 86932 | | | |
| 5. 40997, 40998, 40999 | 6. 20001, 20000, 19999 | 7. 17 | |
| 8. (i) < | (ii) > | (iii) < | (iv) < |
| (v) > | | | |
| 9. 1100, 925, 886, 786, 325, 270, 141, 0 | | 10. 999999, 1000000, 1000000 is larger by 1. | |
| 11. 8510000, 8509999, 8509998 | | | |

Exercise 2.2

- | | | | |
|---------------|-----------|-------------|------------|
| 1. (i) 1078 | (ii) 699 | (iii) 459 | (iv) 60756 |
| 2. (i) 923702 | (ii) 2994 | (iii) 45411 | (iv) 15518 |
| 3. (i) 16500 | (ii) 8000 | (iii) 165 | |

4. Do yourself.

- | | | | |
|-------------|------------|-------------|-------------|
| 5. (i) 1150 | (ii) 15300 | (iii) 1160 | (iv) 1987 |
| (v) 5026 | (vi) 4110 | (vii) 47690 | (viii) 4296 |
| (ix) 600 | (x) 400 | | |

Exercise 2.3

- | | | | |
|---|---|---|--|
| 1. (i) 6856 | (ii) 1305 | (iii) 1235 | (iv) 36545 |
| 2. Do Yourself | | | |
| 3. (i) $\begin{array}{r} 9\ 7\ 3 \\ -\ 4\ 4\ 1 \\ \hline 5\ 3\ 2 \end{array}$ | (ii) $\begin{array}{r} 8\ 7\ 6 \\ -\ 2\ 3\ 9 \\ \hline 6\ 3\ 7 \end{array}$ | (iii) $\begin{array}{r} 5\ 3\ 7\ 6 \\ -\ 2\ 8\ 5\ 9 \\ \hline 2\ 5\ 1\ 7 \end{array}$ | (iv) $\begin{array}{r} 1\ 0\ 0\ 0\ 0\ 0\ 0 \\ -\ 5\ 6\ 7\ 9\ 1 \\ \hline 9\ 4\ 3\ 2\ 0\ 9 \end{array}$ |
| 4. 1 | 5. ₹ 19575 | 6. ₹ 4582 | |
| 7. ₹ 30000 | 8. ₹ 15840 | | |

Exercise 2.4

- | | | | |
|----------------|-----------------|---------------|----------------|
| 1. (i) 0 | (ii) 4567 | (iii) 475 | (iv) 1243 |
| (v) 10 | (vi) 4 | (vii) 5 | (viii) 84 |
| 2. (i) 149700 | (ii) 35800 | (iii) 4950000 | (iv) 5000000 |
| 3. (i) 75808 | (ii) 81984 | (iii) 260064 | |
| 4. (i). 68448 | (ii) 607920 | (iii) 1245616 | |
| 5. (i) 4930 | (ii) 2457900 | (iii) 156800 | (iv) 156250000 |
| 6. Do Yourself | 7. ₹ 30,00,000 | 8. ₹ 20655 | 9. ₹ 1700 |
| 10. 975 km | 11. ₹ 30,00,000 | | |

Exercise 2.5

- | | | | |
|-------------------|----------------|---------|----------|
| 1. (i) Any number | (ii) 1 | (iii) 0 | |
| 2. (i) F | (ii) T | (iii) T | (iv) T |
| (v) F | (vi) T | (vii) T | (viii) T |
| 3. Do Yourself | 4. Do Yourself | | |
| 5. 100050 | 6. 9960 | 7. 9996 | 8. ₹ 780 |

Exercise 2.6

- | | | | | |
|--|-------------|---------------------------------------|----------------|-------|
| 1. (i) 21, 28 | (ii) 10, 15 | 2. 6, 10, 15 | 3. Do Yourself | 4. 36 |
| 5. (i) $99999 \times 11111 = 1111088889$ | | (ii) $55555 \times 11 = 611105$ | | |
| $999999 \times 111111 = 111110888889$ | | $555555 \times 11 = 6111105$ | | |
| (iii) $88888 \times 11 = 977768$ | | (iv) $444444 \times 11 + 4 = 4888888$ | | |
| $888888 \times 11 = 9777768$ | | $4444444 \times 11 + 4 = 48888888$ | | |

Rapid Assessment

- | | | | |
|--------------------------|-----------------------------|----------|----------------|
| A. 1. c | 2. b | 3. c | 4. b |
| 5. c | 6. c | 7. a | |
| B. 1. 1 | 2. Addition, Multiplication | 3. 43000 | 4. 0 |
| 5. subtraction, division | | | |
| C. 1. T | 2. T | 3. F | 4. T |
| 5. T | 6. T | | |
| D. 1. (iii) | 2. (iv) | 3. (v) | 4. (ii) 5. (i) |

Mental Maths

1. T 2. Yes, 0 3. No 4. $a \div 0 = 0$, $a \times 1 = a$ 5. 567

CHAPTER - 3

Exercise 3.1

1. (i) 23 (ii) 31 (iii) 55 (iv) 26
 (v) 14 (vi) 53 (vii) 6 (viii) 30 (ix) 68
 2. (i) 0 (ii) 7 (iii) 13 (iv) 76 (v) -28

Exercise 3.2

1. (i) 1, 2, 3, 4, 6, 9, 12, 18, 36 (ii) 1, 5, 25
 (iii) 1, 2, 5, 10, 25, 50 (iv) 1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30, 60
 (v) 1, 2, 3, 4, 6, 7, 12, 14, 21, 28, 42, 84 (vi) 1, 5, 25, 125
 2. (i) 14, 28, 42, 56, 70 (ii) 31, 62, 93, 124, 155
 (iii) 45, 90, 135, 180, 225 (iv) 62, 124, 186, 248, 310
 3. (ii) 4. (i) Yes, (ii) No, (iii) Yes
 5. No 6. 4, 9, 25, 49
 7. 24, 48, 72 8. 36, 72 9. 1, 2, 4, 8 10. Do yourself.

Exercise 3.3

1. 2, 3, 5, 7, 11, 13, 17, 19, 23, 29. 2. 2, Yes
 3. Yes, 15 4. 23, 31, 109
 5. (8, 9) (14, 15) (25, 26) (27, 28) (32, 33) (44, 45) (55, 56)
 6. even = (i) 32, (ii) 50, (iii) 58, (iv) 144 ; odd = e. 253
 7. (59, 61) (71, 73) 8. Do yourself
 9. (i) $11 + 2$ (ii) $71 + 59$ (iii) $109 + 71$ (iv) $109 + 71 + 2$
 10. (i) $3 + 5 + 7$ (ii) $5 + 7 + 37$ (iii) $3 + 5 + 23$
 11. (i) (8, 21) (15, 64)
 12. (i) F (ii) F (iii) F (iv) F (v) F

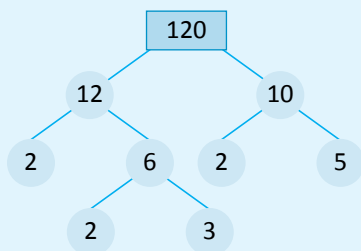
Exercise 3.4

1. (i) Divisible by 2 are: (i) 126 (ii) 990 (iii) 8652 (iv) 6392
 Divisible by 4 are: (iii) 8652 (iv) 6392
 Divisible by 9 are: (i) 126 (ii) 990 (v) 83745
 2. (i) 9020814 (iii) 5335 (iv) 901351 (v) 1265
 3. (i) 2070 (iii) 2050 (iv) 6985 (v) 165
 4. (i) F (ii) T (iii) F (iv) T
 (v) F (vi) T (vii) T
 5. (a) i, iii, iv, v (b) i, ii, iii, v (c) ii, iii, iv, v

6. (i) 0 (ii) 1 (iii) 2
 7. (i) 5 (ii) 6 (iii) 1
 8. (i) 8 (ii) 2 (iii) 0
 9. (i) 2 (ii) 3 (iii) 2

Exercise 3.5

1. (i)



2. (iii)

4. $10000 = 2 \times 2 \times 2 \times 2 \times 5 \times 5 \times 5 \times 5$

6. (i) $16 = 2 \times 2 \times 2 \times 2$ (ii) $75 = 3 \times 5 \times 5$

(v) $1100 = 2 \times 2 \times 5 \times 5 \times 11$

7. (i) $64 = 2 \times 2 \times 2 \times 2 \times 2 \times 2$ (ii) $80 = 2 \times 2 \times 2 \times 2 \times 5$ (iii) $110 = 2 \times 5 \times 11$ (iv) $126 = 2 \times 3 \times 3 \times 7$

Exercise 3.6

1. (i) 2 (ii) 24 (iii) 8 (iv) 72 (v) 2
 2. (i) 4 (ii) 5 (iii) 3 (iv) 6 (v) 3
 3. 54604.27 4. Do yourself 5. 138
 6. (i) $\frac{7}{9}$ (ii) $\frac{8}{13}$ 7. 7 metres.

Exercise 3.7

1. (i) 240 (ii) 90 (iii) 5760 (iv) 540
 (v) 2160 (vi) 144 (vii) 1728 (viii) 30
 (ix) 1680 (x) 6160

Exercise 3.8

1. 150 2. 90 3. 3 4. No
 5. 120 6. HCF = 27, LCM = 162 7. HCF = 29, LCM = 1160

Rapid Assessment

- A. 1. a 2. d 3. b 4. d
 5. b 6. c 7. c 8. b
 B. 1. Prime 2. Composite 3. Prime, Composite 4. 2
 5. 4 6. 2
 C. 1. F 2. F 3. F 4. T
 5. T 6. T
 D. 1. a, c 2. 12,000 3. Do yourself 4. $7 \times 13 \times 19 = 39$

Mental Maths

- | | | | |
|--------|--------|------|-------|
| 1. Yes | 2. Yes | 3. 4 | 4. 20 |
| 5. 90 | 6. Yes | | |

CHAPTER - 4

Exercise 4.1

- | | | | |
|--|---|---------------------------|-------------------------------|
| 1. (i) decrease
(v) spending ` 100                                                                                                                            | (ii) with drawing<br>(vi) profit of ` 200 | (iii) Going to North | (iv) Rise in temperature |
| 2. (i) $+3^{\circ}\text{C}$
(v) -10 | (ii) -5°C
(vi) $+3$ | (iii) $+2\text{ km}$ | (iv) -5000 |
| 3. (i) -8
(v) -17 | (ii) -12
(vi) -316 | (iii) -88 | (iv) -12 |
| 4. (i) 8 | (ii) 11 | (iii) 0 | (iv) -5 |
| 5. (i) $-4, -3, -2, -1$ | (ii) $-2, -1, 0, 1, 2$ | (iii) 1, 2, 3, 4, 5, 6, 7 | (iv) $-6, -5, -4, -3, -2, -1$ |
| 6. (i) $0 < -5$ | (ii) $-17 > -18$ | (iii) $-5 < -2$ | (iv) $-100 < -98$ |
| 7. (i) $-19, -18, -17, -16$ | (ii) $-11, -12, -13, -14,$ | | |
| 8. (i) Ascending : $-8 < -5 < 0 < 4 < 6$
Descending: $6 > 4 > 0 > -5 > -8$
(ii) Ascending : $-9 < -4 < +5 < +6 < 10$
Descending: $10 > 6 > 5 > -4 > -9$ | | | |

- | | |
|-------------|--------|
| 9. (i) -2 | (ii) 5 |
|-------------|--------|

Exercise 4.2

- | | | | |
|---------------------|----------------------|-------------------------|--------------------|
| 1. (i) 3 | (ii) 4 | (iii) -4 | (iv) -14 |
| 2. (i) -8 | (ii) 86 | (iii) 38 | (iv) 0 |
| 3. 108 | -18 | (iii) 40 | (iv) 84 |
| 4. (i) 84
(v) 89 | (ii) 7
(vi) -48 | (iii) -64
(vii) 55 | (iv) 163 |
| 5. (i) -10 | (ii) -123 | (iii) 5264 | (iv) 999 |
| 6. (i) T
(v) T | (ii) F
(vi) F | (iii) T
(vii) T | (iv) T
(viii) F |

Exercise 4.3

- | | | | |
|------------------------|--------------------------|---------------|--------------------|
| 1. (i) 5
(v) -122 | (ii) 25
(vi) -42920 | (iii) 100 | (iv) -8656 |
| 2. 12, -12 No | 3. 36 | | |
| 4. (i) $<$ | (ii) $<$ | (iii) $>$ | |
| 5. (i) 6 | (ii) -19 | (iii) -3305 | (iv) 0
(v) -8 |

6. 388

7. -183

8. (i) -4

(ii) 10

(iii) 6

(iv) -105

(v) 8

9. -10

10. Fall in temperature in chennai is greater.

Rapid Assessment

A. 1. b

2. b

3. d

4. b

5. b

6. c

B. 1. -1

2. -8

3. -7

4. 6

5. 0

C. 1. T

2. F

3. F

4. T

5. F

Mental Maths

1. 2

2. 0

3. -9, -8, -7, -6, -5, -4, -3, -2, -1, 0, 1, 2, 3, 4, 5, 6, 7, 8, 9

CHAPTER - 5

Exercise 5.1

1. (i) $\frac{2}{4}$

(ii) $\frac{1}{4}$

(iii) $\frac{4}{10}$

(iv) $\frac{6}{9}$

(v) $\frac{3}{9}$

(vi) $\frac{4}{8}$

(vii) $\frac{4}{6}$

(viii) $\frac{3}{4}$

2. (i) $\frac{3}{5}$

(ii) $\frac{7}{12}$

(iii) $\frac{4}{6}$

(iv) $\frac{2}{7}$

(v) $\frac{8}{9}$

(vi) $\frac{3}{4}$

(vii) $\frac{8}{10}$

(viii) $\frac{1}{8}$

3. (i) 12

(ii) 9

(iii) 28

(iv) 20

4. (i) Five-ninths

(ii) Seven-eighths

(iii) Three upon fourteen

(iv) Four upon fifteen

5. $\frac{1}{7}$

6. $\frac{8}{24}$

7. $\frac{45}{60}$

8. (i) 8

(ii) 4

(iii) 20

9. (i) ₹ 2

(ii) 5 l

(iii) 15 kg

(iv) 18

(v) 121 km

(vi) ₹ 40

Exercise 5.2

1. (i) Pro.

(ii) Pro.

(iii) Imp.

(iv) Imp.

(v) Pro.

(vi) Pro.

(vii) Imp.

(viii) Imp.

2. (i) $\frac{33}{4}$

(ii) $\frac{55}{6}$

(iii) $\frac{49}{9}$

(iv) $\frac{27}{4}$

(v) $\frac{67}{6}$

(vi) $\frac{142}{9}$

(vii) $\frac{80}{7}$

(viii) $\frac{58}{13}$

3. (i) $3\frac{1}{9}$

(ii) $15\frac{1}{15}$

(iii) $16\frac{1}{9}$

(iv) $25\frac{3}{5}$

Exercise 5.3

1. (i) $\frac{5}{9}$

(ii) $\frac{1}{7}$

(iii) $\frac{17}{6}$

(iv) $\frac{6}{7}$

(v) $\frac{1}{6}$

(vi) $\frac{8}{9}$

2. (i) $\frac{9}{15}$

(ii) $\frac{18}{30}$

(iii) $\frac{21}{35}$

(iv) $\frac{24}{40}$

3. (i) $\frac{15}{20}$

(ii) $\frac{3}{4}$

(iii) $\frac{180}{240}$

(iv) $\frac{135}{180}$

4. (i) $\frac{15}{18}$

(ii) $\frac{3}{4}$

(iii) $\frac{25}{30}$

(iv) $\frac{30}{36}$

5. (i) Yes
(v) No

(ii) No
(vi) Yes

(iii) No

(iv) Yes

6. (i) d
(v) b

(ii) e

(iii) a

(iv) C

Exercise 5.4

1. (i) $\frac{5}{9}$

(ii) $\frac{6}{7}$

(iii) $\frac{7}{15}$

(iv) $\frac{5}{6}$

2. (i) $\frac{7}{11}$

(ii) $\frac{7}{12}$

(iii) $\frac{7}{8}$

(iv) $\frac{9}{11}$

3. (i) $\frac{7}{15}, \frac{7}{11}, \frac{7}{9}, \frac{7}{8}$

(ii) $\frac{2}{13}, \frac{4}{13}, \frac{6}{13}, \frac{8}{13}$

(iii) $\frac{5}{9}, \frac{2}{3}, \frac{7}{9}, \frac{8}{9}$

4. (i) $\frac{5}{6}, \frac{4}{6}, \frac{3}{6}, \frac{2}{6}$

(ii) $\frac{9}{11}, \frac{9}{13}, \frac{9}{15}, \frac{9}{17}$

(iii) $\frac{5}{6}, \frac{2}{3}, \frac{5}{9}, \frac{3}{8}$

(iv) $\frac{9}{10}, \frac{8}{9}, \frac{13}{18}, \frac{7}{15}$

5. $\frac{18}{24}, \frac{15}{24}, \frac{14}{24}, \frac{13}{24}$

6. Anki

7. No. Raman; 50 ml

Exercise 5.5

1. (i) 5

(ii) 9

(iii) 12

(iv) 10

2. (i) $\frac{7}{8}$

(ii) $\frac{6}{7}$

(iii) $\frac{12}{12}$

(iv) $\frac{7}{15}$

(v) $\frac{14}{16}$

(vi) $\frac{15}{17}$

(vii) $\frac{30}{23}$

(viii) $\frac{20}{21}$

3. (i) $\frac{11}{9}$

(ii) $\frac{9}{10}$

(iii) $\frac{9}{12}$

4. (i) $\frac{8}{7}$

(ii) $\frac{7}{17}$

(iii) $\frac{4}{5}$

(iv) $\frac{11}{27}$

(v) $\frac{4}{8}$

(vi) $\frac{17}{51}$

(vii) $\frac{2}{23}$

(viii) $\frac{1}{10}$

5. $\frac{4}{10}$

6. $\frac{14}{15}$

7. $\frac{8}{10}$

Exercise 5.6

1. (i) $1\frac{1}{12}$

(ii) $\frac{7}{10}$

(iii) $\frac{1}{2}$

(iv) $9\frac{5}{6}$

(v) $10\frac{7}{10}$

(vi) $12\frac{3}{4}$

(vii) $5\frac{1}{12}$

2. (i) $\frac{1}{10}$

(ii) $\frac{1}{3}$

(iii) $\frac{1}{3}$

(iv) $2\frac{7}{11}$

(v) $5\frac{1}{12}$

(vi) $2\frac{1}{8}$

(vii) $\frac{11}{12}$

3. (i) $\frac{3}{6}$

(ii) $\frac{8}{8}$

(iii) $\frac{8}{10}$

(iv) $\frac{11}{9}$

(v) $4\frac{5}{6}$

(vi) $4\frac{15}{16}$

(vii) $7\frac{7}{10}$

4. (i) $\frac{11}{35}$

(ii) $\frac{5}{6}$

(iii) $1\frac{1}{6}$

(iv) $1\frac{2}{3}$

(v) $2\frac{7}{15}$

(vi) $1\frac{3}{10}$

5. (i) $\frac{18}{23}$ (ii) $\frac{2}{11}$ (iii) $2\frac{1}{8}$ (iv) $3\frac{1}{6}$
 (v) $3\frac{1}{6}$ (vi) $1\frac{5}{21}$
6. $4\frac{1}{10}$ 7. $1\frac{5}{9}$ 8. $4\frac{13}{16}$
9. $22\frac{3}{4}$ kg 10. $\frac{13}{30}$ 11. $1\frac{7}{10}$ kg 12. $3\frac{17}{20}$ l

Rapid Assessment

- A. 1. (d) 2. (a) 3. (d) 4. (b)
- B. 1. $\frac{4}{3}$ 2. 9 3. $\frac{29}{10}$ 4. $\frac{5}{6}$ 5. $9\frac{1}{3}$

CHAPTER - 6

Exercise 6.1

1. (i) 0.09 (ii) 2.0 (iii) 0.017 (iv) 1.08 (v) 0.999
 2. (i) 8.25 (ii) 2.125 (iii) 4.05
 3. (i) 0.7 (ii) 0.9 (iii) 0.11 (iv) 0.054
 (v) 4.5 (vi) 21.71 (vii) 104.106 (viii) 60.06
 4. (i) $6 \times 10 + 7 \times 1 + 8 \times \frac{1}{10} + 3 \times \frac{1}{100}$ (ii) $2 \times 100 + 8 \times 10 + 3 \times 1 + 6 \times \frac{1}{10} + 1 \times \frac{1}{100}$
 (iii) $2 \times 10 + 4 \times 1 + 6 \times \frac{1}{10} + 7 \times \frac{1}{100} + 5 \times \frac{1}{1000}$ (iv) $2 \times \frac{1}{10} + 9 \times \frac{1}{100} + 4 \times \frac{1}{1000}$
 5. (i) 46.79 (ii) 578.316 (iii) 731.84 (iv) 605.079
 (v) 805.806 (vi) 39.048
 6. Do it yourself.
 7. (i) 0 and 1, 1 (ii) 5 and 6, 5 (iii) 2 and 3.3 (iv) 6 and 7.6

Exercise 6.2

1. (i) 3.658 (ii) 0.7 (iii) 2.57 (iv) 0.09
 (v) 0.057 (vi) 3.6 (vii) 0.09
2. (i) $\frac{27}{100}$ (ii) $\frac{4}{10}$ (iii) $\frac{21468}{100}$ (iv) $\frac{6}{100}$
 (v) $\frac{98}{1000}$ (vi) $\frac{1025}{100}$ (vii) $\frac{3463}{1000}$
3. (i) 4.38 (ii) 7.925 (iii) 0.16 (iv) 0.135
4. (i) $\frac{348}{100}$ (ii) $\frac{8156}{1000}$ (iii) $\frac{9078}{1000}$ (iv) $\frac{16504}{1000}$
5. (i) > (ii) > (iii) > (iv) >
 (v) = (vi) <
6. (i) $0.464 < 0.586 < 1.128 < 4.811 < 456.48$
 (ii) $0.458 < 0.548 < 4.058 < 4.50 < 50.48$
 (iii) $0.8511 < 8.0511 < 8.511 < 85.11 < 805.11 < 851.1$
 (iv) $2.5467 < 2.5647 < 25.647 < 246.57 < 256.47$
7. (i) 0.7 (ii) 0.08 (iii) 5 (iv) 0.9
 (v) 3.5 (vi) 92.075 (vii) 107.325 (viii) 0.487
8. (i) 2.877 (ii) 21.895 (iii) 38.498 (iv) 53.735

(v) 59.432

(vi) 0.088

(vii) 0.952

(viii) 0.006

Exercise 6.3

1. (i) 12.1

(ii) 12

(iii) 0.048

(iv) 4.00272

(v) 37.8518

(vi) 2.95563

2. (i) 0.3

(ii) 0.28

(iii) 3.797

(iv) 9.936

(v) 17.655

(vi) 35.772

3. (i) 7.323

(ii) 23.943

(iii) 68.727

(iv) 184.7623

4. 31.625

5. 4.51

6. 6.1100.83

7. 97.400 kg

8. ₹ 78

9. 15.55 m

10. ₹ 81.50

11. 55.8 m

Exercise 6.4

1. (i) ₹ 46.45

(ii) ₹ 46.08

(iii) 9.09

(iv) 0.43

(v) 0.95

(vi) 5.05

2. (i) 0.4 cm

(ii) 1.5 cm

(iii) 7.2 cm

(iv) 12.8 cm

3. (i) 0.35 m

(ii) 0.06 m

(iii) 2.64 m

(iv) 16.75 m

4. (i) 0.100 kg

(ii) 3.750 kg

(iii) 4.006 kg

(iv) 40.050 kg

5. ₹ 26.30

6. 11.450 kg

7. 5 m 25 cm

8. 22.775 km

9. 21.99

10. 4.280 km

11. ₹ 14.35

12. 2.450 kg

13. (i) 24 km 5 hm 4 dam 6 m

(ii) 25 m 4 cm 8 mm

(iii) 17 kg 4 hg 7 dag 1 g

(iv) 13 kℓ 9 daℓ 6 ℓ 8 dℓ 4 Cl 9 ml

14. (i) 4 kg 4 hg 7 dag 9 g

(ii) 15 ℓ 5 dℓ 9 cl

(iii) 10 kℓ 4 hl 4 dl 9 ℓ

(iv) 25 kg 8 hg 8 dag 3 g 15. 177.16 kℓ

Rapid Assessment

A. 1. (c)

2. (d)

3. (a)

4. (b)

5. (c)

B. 1. 1.7605

2. tenths

3. 2.5

4. 6.538

C. 1. F

2. T

3. T

4. T

5. T

6. T

D. 1. $\frac{8}{1000}$

2. 27.09

3. $300 + 200 + 3 + \frac{2}{10} + \frac{8}{100} + \frac{9}{1000}$

4. 4006.09

5. 303.003

6. 5.328, 4.117, 3.752, 2.89, 2.87

7. 39.26

8. 11.442

9. 5.772

CHAPTER - 7**Exercise 7.1**

1. (i) QS, QR, RS

(ii) AB, BD, DC, CA, CF, DE, AD, BC

2. Do yourself

3. only one

4. Do yourself

5. No

6. (i) Points B, C, D

(ii) l, m, n ; Point A

7. three, none

8. (i) T

(ii) F

(iii) F

(iv) T

(v) F

(vi) T

9. 6

10. 6

11. 1

12. 6

Exercise 7.2

1. (i) $\angle AOB$ (ii) $\angle XYZ$ (iii) $\angle PQR$ (iv) $\angle DEF$ (v) $\angle POQ$
2. (i) P, T, Z (ii) X, Y, R, B 3. $\angle AOB, \angle AOC, \angle AOD, \angle BOC$
4. (i) (i) G, F, E (ii) A, B, C (iii) D, H
- (ii) (i) N, M, S, T, U (ii) P, Q, R, W, V (iii) L, T, Z

Exercise 7.3

Do yourself.

Exercise 7.4

1. (i) (3,3) (ii) 6 (iii) BC (iv) A (v) 3
2. (i) $\triangle PQS, \triangle PQR, \triangle QPR$ (ii) PQ, PS, QS, QR, SR, PR (iii) $\triangle PQR, \triangle PQS$
3. (i) $\triangle LPN, \triangle QPN, \triangle LPR, \triangle QPR$ (ii) $\triangle PQN, \triangle LQN, \triangle LQR, \triangle PQR, \triangle NQR$
4. (i) T, N, U, P, Q, L, R, S (ii) U, L 4. Do yourself.

Exercise 7.5

1. (i) A, B, C, M, N (ii) P, R, Z (iii) S, Q, T
2. $\triangle AEB, \triangle BEC, \triangle CED, \triangle DEA, \triangle ABC, \triangle ADB, \triangle BCD, \triangle CDA, \triangle CED,$
3. Triangle are (iv) and (i), Quadrilaterals (i), (vii), (viii) 4. Do yourself
5. AB, BC, CD, DA, are four sides ; $\angle A, \angle B, \angle C, \angle D$ are the four angles and AC and BD are two diagonals.
6. (i) PQ, QR (ii) $\angle P, \angle Q$ (iii) $\angle P, \angle R$ (iv) PQ, SR
7. (i) and (iii) 8. Do yourself.

Exercise 7.6

Do yourself.

CHAPTER - 8

Exercise 8.1

Do yourself.

Exercise 8.2

1. i. Straight angle ii. Right angle iii. Acute iv. Obtuse v. Straight
2. i. Right ii. Acute iii. Zero iv. Straight
3. i. 12° ii. 60° iii. 180° iv. 270°
- v. 360° vi. 180°
4. 75° 5. 180° 6. at 12° 7. at 4
8. i. at 6 ii. at 3 iii. at 8 iv. at 11

Exercise 8.3

1. i. Isosceles ii. Scalene iii. Scalene iv. Equilateral v. Scalene
2. i. Right triangle ii. Obtuse iii. Acute iv. Obtuse v. Acute
3. i. Right triangle ii. Obtuse iii. Right
4. Do yourself.
5. i. e ii. g iii. a iv. f v. d vi. c vii. b
6. i. F ii. T iii. T iv. T v. F

Exercise 8.4

1. i. Ree PQRS
v. Parallel WXYZ
2. i. BC
ii. Parallel
iii. AC, BD
iv. 80°
v. AB BC CD and DA
3. i. $\angle P = 90^\circ$
ii. SR
iii. Parallel
iv. 10 cm
4. i. T
ii. F
iii. T
iv. T
v. T
vi. F
vii. F
viii. F
ix. T
x. T
xi. T
xii. T
xiii. F
xiv. F
5. Rhombus, Square
6. Rectangle, Square

Exercise 8.5

- 1, 2, 3. Do yourself
4. i. Triangular Prism
ii. Cone
iii. Cube
iv. Cylinder
v. Cuboid
6. i. A, B, C, D, E
ii. AB, AC, AD, AE, BC, CD, DE, EB
iii. ABC, ACB, ADE, ABE, ACD, BCDE

CHAPTER - 9

Exercise 9.1

1. (i)

Sweets	Tally marks	Number of Students
Ladoo		11
Barfi		3
Jalebi		7
Rasgulla		9
	Total	30

(ii) Ladoo is preferred by most of the students.

2. (i) 6 (ii) 5 (iii) 14 students

3.

Height	Tally marks	Number of Students
135		6
136		5
137		4
138		2
140		7
141		2
142		4
	Total	30

$$\text{Range} = 142 - 135 = 7$$

4. (i) Raw data (ii) Array (iii) Tabulation (iv) Observations

5. Do yourself

6.

Numbers	Tally marks	Frequency
1		5
2		7
3		6
4		2
5		3
	Total	23

7. (i) 13 students (ii) 23 students (iii) 4 marks
 8. (i) ₹ 70 (ii) ₹ 78 (iii) 15 students

Exercise 9.2

1. (i) 800 (ii) 8 : 5 (iii) ₹ 29250
 2. (i) 800 (ii) 250 (iii) English (iv) History
 3. (i) 50 apples (ii) Papaya (iii) Orange (iv) 20 trees (v) 200 trees
 4. (i) 1350 bulbs (ii) First day (iii) 2 days (iv) ₹ 5000
 5. Do yourself 6. (i) 6 (ii) Village (iii) C
 7. (i) 2007 (ii) 2003 (iii) 2005 and 2008 (iv) 6 (v) 4300000
 8. Do yourself 9. Do yourself 10. Do yourself

Exercise 9.3

1. (i) 1992-93 and 1993-94 (ii) M.P. and Bihar (iii) U.P. has the same production in both the years.
 (iv) U.P. 2. Do yourself 3. Do yourself
 4. (i) 30-44 and 45-59 (ii) 1 lakh 20 thousand

CHAPTER - 10

Exercise 10.1

1. (i) 28 cm (ii) 52 cm (iii) 15 cm (iv) 28 cm (v) 91.92 cm
 2. (i) 15 cm (ii) 56 cm (iii) 70 cm
 3. (i) 8 m (ii) 4 cm (iii) 20 cm (iv) 40 cm
 4. (i) 44 cm (ii) 60 cm (iii) 38 cm
 5. (i) 17.1 cm (ii) 66 cm (iii) 67 m 48 cm (iv) 150 m
 6. 1.12 cm 7. 5.46 m 8. 65 cm 9. 7 sides, heptagon
 10. 210 m 11. 640 m 12. 10 m 13. 9 cm
 14. 19 cm 15. 6 cm 16. 5200 m, ₹52000 17. 15 cm

Exercise 10.2

1. (i) 24 cm^2 (ii) 225 m^2 (iii) 9800 m^2 (iv) 500 m^2
(v) 85 m^2 (vi) 144 m^2
2. (i) 30 sq. cm (ii) 80 sq. cm (iii) 16000 sq. cm
3. (i) 4 sq. cm (ii) 6 sq. cm (iii) 6 sq. cm (iv) 5 sq. cm
(v) 8 sq. cm (vi) 12 sq. cm
4. (i) 25 cm^2 (ii) 16.81 cm^2 (iii) 30.25 cm^2 (iv) 6.76 cm^2
5. 17.5 cm 6. Area = 4900 cm^2 , $P = 280 \text{ cm}$ 7. 9 cm
8. (i) 9 times (ii) 2 times (iii) does not change
9. 15 m 10. 12 m 11. ₹1920 12. ₹726000
13. 3905 m^2 14. 100000 tiles
15. (i) $l = 8 \text{ cm}$, $b = 4 \text{ cm}$ (ii) 24 cm
16. (i) 16 m , 8 m (ii) 48 m 17. (i) 12 m , 6 m (ii) 72 m^2
18. (i) 30 m , 15 m (ii) 450 m^2

Rapid Assessment

- A. 1. (a) 2. (b) 3. (d) 4. (a) 5. (b) 6. (b) 7. (a) 8. (c)
9. (b) 10. (d) 11. (a) 12. (b)
- B. 1. sq. km 2. distance, boundary 3. 30 cm 4. 3.375 sq. m 5. 100 sq. cm
- C. 1. $(\text{side})^2$ 2. $l \times b$ 3. $4 \times \text{side}$ 4. $2(l + b)$ 5. 30 m 6. 18 cm
- D. 1. - (iv) 2. - (i) 3. - (ii) 4. - (iii)

CHAPTER - 11

Exercise 11.1

1. (i) Boy : girl = $8 : 7$ (ii) $l : b = 2 : 1$ (iii) $AB : CD = 1 : 3$ (iv) $1 : 3$
(v) $4 : 7$
2. (i) Number of villages is 1000 times to that of towns in India.
(ii) Out of 36 there are sixteen tables and twenty chairs in a classroom.
(iii) There are $\frac{4}{5}$ girls to the boys in a class.
(iv) Quantity of acid in the diluted acid is $\frac{2}{5}$ parts. and quantity of water in the diluted acid is $\frac{3}{5}$ is parts
3. (i) $4 : 1$ (ii) $3 : 28$ (iii) $5 : 24$ (iv) $7 : 10$
(v) $20 : 1$ (vi) $40 : 7$
4. (i) $16 : 15$ 5. (i) $4 : 5$ (ii) $4 : 9$
6. (i) $7 : 11$ (ii) $7 : 18$ (iii) $18 : 11$
7. $125000 : 3$ 8. $1 : 16$
9. (i) $6 : 9$, $4 : 6$, $2 : 3$ (ii) $20 : 16$, $10 : 8$, $5 : 4$ (iii) $56 : 72$, $28 : 36$, $14 : 18$
10. (i) No (ii) Yes (iii) Yes
11. (i) $4 : 5$ (ii) $10 : 7$ (iii) $6 : 8$
12. $1 : 4$, $2 : 7$, $6 : 15$, $9 : 12$ 13. 5 , 12 , 25 . 14. (i) $2 : 3$ (ii) $2 : 3$
15. $8 : 9$ 16. 12 cm , 24 cm , 36 cm 17. 180 , 630 18. ₹ 784, ₹ 588

19. (i) 3 : 4 (ii) 5 : 8.

Exercise 11.2

1. (i) No (ii) No (iii) No (iv) No
(v) No (vi) Yes
2. (i) Yes (ii) No
3. (i) T (ii) T (iii) F (iv) T (v) F
4. (i) 60 (ii) 18 (iii) 96 (iv) 45
(v) 10 (vi) 87
5. (i) 30 (ii) 2 (iii) 30 (iv) $\frac{256}{3}$
6. $9 : 150 :: 105 : 1750$, $150 : 1750 :: 9 : 150$, $1750 : 150 :: 150 : 9$
 $150 : 9 :: 1750 : 105$
7. (i) $16 : 5 = 24 : 30$ (ii) $12 : 14 = 18 : 21$
 $30 : 24 = 45 : 16$ $21 : 18 = 14 : 12$
 $24 : 30 = 16 : 45$ $18 : 12 = 21 : 14$
8. 6 9. 62 10. Do yourself 11. 100 metres
12. Each one spends the same amount 13. 24 m 15. ₹ 600
15. 12 grams 16. 2 cm.

Exercise 11.3

1. ₹ 1326 2. ₹ 198 3. 100 4. ₹ 1005
5. 6500 km 6. ₹ 3040 7. ₹ 28.5 8. ₹ 1014
9. ₹ 36000 10. ₹ 30 11. ₹ 670 12. 280 km
13. 15 hours 14. 16 days 15. 20 postcards 16. ₹ 344
17. ₹ 10.50

Rapid Assessment

- | | | | | |
|-----------|----------|--------|-----------|-----------------|
| A. 1. (a) | 2. (a) | 3. (c) | 4. (a) | 5. (b) |
| 6. (a) | 7. (c) | 8. (c) | 9. (d) | 10. (c) 11. (b) |
| B 1. 16 | 2. 2 : 3 | 3. 4 | 4. 8 : 15 | 5. 5 : 2 |
| C 1. T | 2. T | 3. F | 4. T | 5. F |

Mental Maths

1. 10 fours; 6 sixes
2. Iron = 320 g, Copper = 160 g and Aluminium = 320 g

CHAPTER - 12

Exercise 12.1

1. (i) $6 + x$ (ii) $y + 4$ (iii) $x/3$ (iv) $15z$ (v) $9 - y$
2. (i) $z - 15$ (ii) $y + 12$ (iii) $z = x + 6$ (iv) $z = x - 5$
3. (i) $6x, 2y$ (ii) $a, 2b, 3c$ (iii) $x^2, -2x, 1$ (iv) $9x^2b, -7b^2z^2$
4. (i) $2l + 3m$ (ii) $x - 17y$ (iii) $x^2 - 3x + 7$ (iv) $22 + 7a^2 + 6p$
5. (i) Unlike (ii) like (iii) like (iv) Unlike (v) like
(vi) Unlike
6. (i) $-3ba^2, 1/3 a^2b; x, 3x; xy^2 - 17y^2x$ (ii) $3cab, -5bac; 2y^2; y^2, 6xyz^2, xyz^2; x^2; 6xyz$
7. (i) Trinomial (ii) Monomial (iii) Binomial (iv) Binomial (v) Trinomial
8. (i) 2 (ii) $3/5$ (iii) -13 (iv) 1

9. (i) 6 (ii) 13 (iii) 36
 10. ₹ $(3x + 20y)$ 11. (i) 1 (iii) 1 (iv) 3 (v) 5
 12. 1080 13. 10 14. -9
 15. (i) 3 (ii) 14 (iii) -9 (iv) -1 (v) 19

Exercise 12.2

1. (i) $x + y = y + x$ (ii) $x \times y = y \times x$ (iii) $(x + y) + z = x + (y + z)$
 (iv) $(x \times y) \times z = x \times (y \times z)$ (v) $x + (y - z) = (x + y) - z$ (vi) $(x + y) \times z = (x \times z) + (y \times z)$
 2. 6l 3. (i) $2x$ (ii) $4x + 1$ (iii) $5x + 1$
 4. $\frac{n(n-2)}{2}$ 5. (iv) $6m$ 6. (i) 25 (ii) 34 (iii) 46

Exercise 12.3

1. a -30 km/h 2. ₹ a + 5000 3. p-5 4. $(2x + 7)$ years
 5. ₹ $(3a - 15)$ 6. $(a - 7)$ cm 7. ₹ $\frac{x}{5}$
 8. (i) $21x$ km (ii) $7(x + 7)$ km 9. ₹ $a/30$ 10. Number of boxes = $50/x$

Rapid Assessment

- A. 1. (c) 2. (d) 3. (a) 4. (c) 5. (a)
 6. (c) 7. (c) 8. (b) 9. (c) 10. (c)
 11. (b) 12. (b) 13. (c)
 B. 1. Variable 2. 8 m 3. subtraction 4. 12 5. 35