

# ANSWER SHEET

## EXERCISE 1.1

- (a) Fifty nine (b) one hundred two (c) Two hundred ninety four  
 (d) Three hundred six (e) Eight hundred one  
 (f) Three hundred thirteen  
 (a) 648 (b) 212 (c) 310 (d) 808 (e) 507  
 (a)  $600 + 40 + 7$  (b)  $200 + 40 + 0$  (c)  $300 + 00 + 7$   
 (d)  $500 + 90 + 3$  (e)  $900 + 80 + 3$   
 (a) 333 (b) 208 (c) 710 (d) 697 (e) 927  
 (a)  $70 + 5$  (b) 800 (c)  $200 + 20$   
 (d)  $300 + 50 + 3$  (e)  $100 + 30$   
 (a) 9 (b) 0 (c) 9 (d) 90 (e) 99  
 (a)  $46 < 64$  (b)  $800 > 80$  (c)  $201 = 201$   
 (d)  $897 < 987$  (e)  $406 < 460$   
 (a) 666 (b) 939 (c) 995  
 (a) 39, 63, 93, 302, 303 (b) 909, 920, 945, 955, 963  
 (a) 707, 207, 117, 107, 73, 71 (b) 207, 175, 165, 108, 67  
 349, 394, 493, 439, 934, 943  
 502, 205, 520, 250  
 60 14.3  
 (a) 70 (b) 154 (c) 102 (d) 787 (e) 600 (f) 311  
 (g) 1368 (h) 584 (i) 638  
 (a) 861 (b) 430 (c) 193 (d) 833 (e) 1302  
 (a) 30 (b) 12 (c) 42 (d) 36 (e) 178 (f) 88  
 (g) 218 (h) 419 (i) 76  
 (a) 224 (b) 79 (c) 482 (d) 202 (e) 501  
 (a) 21 (a) 16 (c) 3 (d) 20 (e) 4 (f) 60  
 (a) Ten past eleven (b) Nine o'clock  
 787 22. 62 23. 488 24. 120 girls.

## CHAPTER-1

### EXERCISE 1.1

- (a) 1000 (b) 3000 (c) 7000 (d) 8000 (e) 9000 (f) 6000  
 (a) 3000 (b) 4000 (c) 3700 (d) 9300 (e) 5800

20, 30, 40, 50, 60, 70, 80, 90

a. Standard form : 5276

word form : five thousand two hundred seventy six.

Expanded form :  $5000 + 200 + 70 + 6$

b. standard form : 4310

word form : four thousand three hundred ten

Expanded form :  $4000 + 300 + 10$

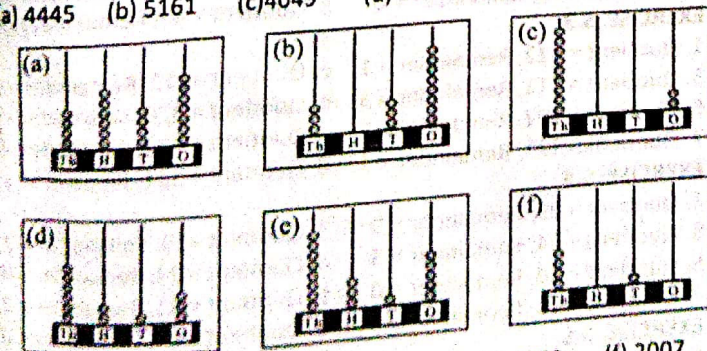
c. standard form : 7008

word form : seven thousand eight

Expanded form :  $7000 + 8$

### EXERCISE 1.2

- (a) 4445 (b) 5161 (c) 4049 (d) 8207 (e) 6437 (f) 8160



- (a) 5748 (b) 8145 (c) 7049 (d) 6103 (e) 4068 (f) 2007

4. (a) 1 Thousand 5 Hundreds 6 Tens 0 Ones  
 (b) 3 Thousand 3 Hundreds 2 Tens 0 Ones  
 (c) 8 Thousand 1 Hundreds 7 Tens 2 Ones  
 (d) 6 Thousand 5 Hundreds 8 Tens 1 Ones  
 (e) 3 Thousand 0 Hundreds 3 Tens 0 Ones  
 5. (a) 2732 (b) 7077 (c) 3206  
 6. (a) Two Thousand Seven Hundred Fifty Two  
 (b) Three Thousand One Hundred Seven  
 (c) Eight Thousand Two Hundred Eighty  
 (d) Nine Thousand Nine Hundred Three  
 (e) Four Thousand Seventy Two.

## EXERCISE 1.3

1. (a) (b) (c)   
 (d) (e) (f)   
 2. (a) (b) (c)   
 3. (a) 400 (b) 70 (c) 9 (d) 6000 (e) 2 (f) 90  
 4. (a) 1, 100 (b) 8, 80 (c) 6, 60 (d) 3, 3000  
 5. (a)  $40 - 4 = 36$  (b)  $200 \times 2 = 400$   
 (c)  $6/6 = 1$  (d)  $50 \times 9000 = 450000$

## EXERCISE 1.4

1. (a) < (b) > (c) < (d) < (e) < (f) >  
 (g) < (h) =  
 2. (a) 1033 (b) 8080 (c) 9103 (d) 4445 (e) 6562  
 (f) 2003 (g) 3314 (h) 6510  
 3. (a) 5009 (b) 8007 (c) 9001 (d) 5135 (e) 1889  
 (f) 3431 (g) 7270 (h) 8138  
 4. Sunday 5. Monday

## EXERCISE 1.5

1. (a) 151, 1103, 1119, 1263, 21003 (b) 718, 1115, 1396, 1539, 1908  
 (c) 1872, 3572, 4514, 6967, 8723  
 (d) 3680, 3868, 5038, 7306  
 2. (a) 4250, 3452, 1150, 398 (b) 8872, 6852, 4767, 758  
 (c) 3010, 2002, 1100, 693 (d) 6666, 6067, 6007, 6000  
 3. Even Number : 16, 38, 100, 106, 124, 178, 206, 260  
 Odd Number : 5, 63, 87, 89, 111, 135, 17, 201, 387, 275  
 4. (a) 33 (b) 65 (c) 81 (d) 103 (e) 147  
 (f) 185 (g) 239 (h) 643 (i) 379  
 5. (a) 24 (b) 48 (c) 70 (d) 100 (e) 146  
 (f) 202 (g) 216 (h) 344 (i) 418

## CHAPTER TEST

- A. 1. (b) 2. (b) 3. (b) 4. (c)  
 B. 1. 7272 2. 8206 or  $8000 + 200 + 0 + 6$   
 3. Word Form : One Thousand Four Hundred Sixteen  
 Expanded Form :  $1000 + 400 + 10 + 6$   
 4. Word Form : Four Thousand Nine Hundred Four  
 Expanded Form :  $4000 + 900 + 4$   
 5. 8440 6. 2850, 3150, 3500, 3900



1. Quotient = 127, Remainder = 0  
 2. Quotient = 35, Remainder = 1  
 3. Quotient = 154, Remainder = 2  
 4. Quotient = 111, Remainder = 2  
 5. Quotient = 78, Remainder = 3  
 6. Quotient = 117, Remainder = 1

**EXERCISE 5.6**

1. Quotient = 6, Remainder = 8  
 2. Quotient = 26, Remainder = 8  
 3. Quotient = 346, Remainder = 0  
 4. Quotient = 687, Remainder = 2  
 5. Quotient = 457, Remainder = 2  
 6. Quotient = 892, Remainder = 6  
 7. Quotient = 440, Remainder = 0  
 8. Quotient = 204, Remainder = 2  
 9. Quotient = 501, Remainder = 6  
 10. Quotient = 96, Remainder = 64  
 11. Quotient = 60, Remainder = 82  
 12. Quotient = 55, Remainder = 68  
 13. Quotient = 85, Remainder = 70  
 14. Quotient = 72, Remainder = 81  
 15. Quotient = 81, Remainder = 90

**EXERCISE 5.7**

1. 8      2. 34      3. 81      4. 516      5. 34      6. 251  
 7. 106      8. 92

**CHAPTER TEST**

1. (c)      2. (a)  
 1. (a) Quotient = 12, Remainder = 2  
 (c) Quotient = 12, Remainder = 4  
 2. Quotient = 20, Remainder = 1  
 (e) Quotient = 41, Remainder = 1  
 3. Quotient = 11, Remainder = 2  
 (g) Quotient = 28, Remainder = 1  
 4. Quotient = 20, Remainder = 7  
 (i) Quotient = 126, Remainder = 2  
 5. Quotient = 57, Remainder = 0  
 (k) Quotient = 129, Remainder = 2  
 6. Quotient = 134, Remainder = 0  
 7. Quotient = 90, Remainder = 2  
 (b) Quotient = 2, Remainder = 45  
 8. (a) Quotient = 2, Remainder = 5  
 (d) Quotient = 3, Remainder = 73  
 9. Quotient = 3, Remainder = 7  
 (f) Quotient = 9, Remainder = 88  
 10. Quotient = 5, Remainder = 9  
 11. (a) 12      (b) 88  
 12. (a)  $\times$ , +      (b) +, +  
 13. 12      6.9      7. 16      8. 54, 5 Children left out.

**MENTAL MATH**

1. 150, 30, 100, 90  
 2. 160, 320, 300, 30  
 3. 40, 100, 500, 10  
 4. 50, 200, 300, 10  
 5. 300, 200, 250, 5

**CHAPTER-6**

**EXERCISE 6.1 TO 6.3**

**Do it yourself**

**EXERCISE 6.4**

- (a) Numerator = 1, Denominator = 5  
 (c) Numerator = 3, Denominator = 7  
 (b) Numerator = 5, Denominator = 8  
 (e) Numerator = 4, Denominator = 7  
 (d) Numerator = 2, Denominator = 7  
 Numerator = 7, Denominator = 9

**EXERCISE 6.5**

- (a) 5/9      (b) 2/7      (c) 3/7      (d) 4/13      (e) 8/19  
 1. 4      2. 4/5      3. 9      4. 6      5. 1/3      6. 3/5

**CHAPTER TEST**

1. (a)      2. (a)      3. (b)      4. (b)      5. (b)  
 1. (i) 2/3      (ii) 3/4      (iii) 1/2  
 2. (a) 1/4      (b) C      (c) 1/3      (d) 3/4      (e) 2/3  
 3. 160      4. 270      5. 64

**MENTAL MATHS**

1. 4/9      2. 1/4      3. 5/7      4. 3      5. 15  
 6. (b)      7. (b)      8. No

**CHAPTER-7**

**EXERCISE 7.1**

1. 13cm, 10cm, 7.5cm      2. Do it yourself

**EXERCISE 7.2**

1. (a) 500cm      (b) 1200cm      (c) 1500cm  
 (d) 3200cm      (e) 4500cm      (f) 7600cm  
 (g) 10400cm      (h) 21800cm  
 2. (a) 1m 28cm      (b) 3m 26cm      (c) 4m 72cm  
 (d) 9m 53cm      (e) 7m 8cm      (f) 12m 19cm  
 (g) 14m 97cm      (h) 15m 99cm

**EXERCISE 7.3**

1. 70m 10cm      2. 94m 64cm      3. 70m 95cm

4. 101m 13cm  
 20cm

7. 112m 20cm  
 10. 154m 66cm

**EXERCISE 7.4**

1. 20m 68cm

4. 38m 18cm  
 7. 55m 39cm  
 10. 18m 20cm

**EXERCISE 7.5**

1. 55m 34cm  
 4. 14cm

**CHAPTER TEST**

- A. 1. (b)      2. (b)  
 B. 1. (a) cm      (b) m  
 2. Do it yourself  
 3. (a) 814 cm  
 (d) 1503m  
 4. (a) 6m 19cm  
 (d) 14m 7cm  
 5. 60m

**MENTAL MATHS**

1. (a) m      (b) cm  
 2. 300cm      3. 4m      4. 8m 16cm      5. 154cm  
 6. (a) m      (b) cm      (c) cm      (d) m      (e) cm

**CHAPTER-8**

**EXERCISE 8.1**

1. (a) 2000g      (b) 9000g      (c) 51000g      (d) 74000g  
 (e) 95000g  
 2. (a) 1600g      (b) 7200g      (c) 23200g      (d) 5600g  
 (e) 900g      (f) 7175g  
 3. (a) 1Kg 250g      (b) 9Kg 7g      (c) 12Kg 700g      (d) 28 Kg 506g  
 (e) 93 Kg 650g      (f) 86Kg 500g  
 4. (a) 600g      (b) 750g      (c) 800g      (d) 900g  
 (e) 300g  
 5. (a) 3450g      (b) 8430g      (c) 4075g      (d) 5010g  
 6. (a) 1Kg 860g      (b) 2Kg 640g      (c) 3Kg 440g      (d) 4Kg 50g  
 7. (a) 1Kg 700g      (b) 3000g      (c) 1Kg 400g      (d) 4Kg 40g  
 8. (a) 200g      (b) 900g      (c) 1Kg 400g      (d) 1Kg 500g

**EXERCISE 8.2**

1. 40Kg 190g      2. 179Kg 55g      3. 194Kg 305g      4. 77Kg  
 5. 611Kg 960g      6. 715Kg 560g      7. 125Kg 709g      8. 95Kg  
 9. 38Kg 885g      10. 62Kg 160g      11. 578 Kg 325g

**EXERCISE 8.3**

1. 1Kg 370g      2. 11Kg 370g      3. 24Kg 400g      4. 15Kg 725g  
 5. 45Kg 675g      6. 31Kg 760g      7. 22Kg 887g      8. 8Kg 879g  
 9. 1Kg 940g      10. 98Kg 100g      11. 116 Kg 100g

**EXERCISE 8.4**

1. 2Kg 250g      2. 19Kg 850g      3. 1Kg 835g      4. 9Kg 750g  
 5. 1Kg 75g      6. 25g heavier than Sumit's cake.

**CHAPTER TEST**

- A. 1. (a)      2. (c)      3. (b)      4. (c)      5. (b)  
 B. 1. (a) 400g      (b) 1000g      (c) 6000g      (d) 13000g  
 2. (a) 8Kg      (b) 9Kg      (c) 17Kg      (d) 23Kg  
 3. (a) 5Kg      (b) 1Kg      (c) 1Kg      (d) 12Kg

**MENTAL MATHS**

1. Kilogram      2. 3000g      3. Gram      4. 7Kg      5. 500g+500g  
 6. 250g+250g+250g+250g      7. 4      8. 10

**CHAPTER-9**

**EXERCISE 9.1**

1. 92L 525ml      2. 29L 71ml      3. 36L 560ml      4. 46L 903ml  
 5. 26L 780ml      6. 69L      7. 43.80L      8. 190L 998 ml

**EXERCISE 9.2**

1. (a) 8000ml      (b) 12000ml      (c) 35000ml      (d) 59000ml



- (e) 60000ml (f) 71000ml (g) 87000ml (h) 99000ml  
 2. (a) 5420ml (b) 8675ml (c) 3021ml (d) 5171ml  
 (e) 7281ml (f) 9861ml  
 3. (a) 6L 375ml (b) 1L 950ml (c) 5L 272ml  
 (d) 7L 657ml (e) 3L 290ml (f) 9L 999ml

**EXERCISE 9.3**

1. 8L 111ml 2. 20L 340ml 3. 22L 230ml 4. 23L 788ml  
 5. 48L 999ml 6. 93L 197ml 7. 24L 950ml 8. 33L 770ml  
 9. 27L 708ml 10. 11L 235ml 11. 106L 345ml

**EXERCISE 9.4**

1. 9L 800ml 2. 5L 500ml 3. 4L 450ml 4. 6L 525ml  
 5. 915ml 6. 19L 350ml

**CHAPTER TEST**

- A. 1. (b) 2. (c) 3. (b) 4. (c) 5. (c)  
 B. 1. (a) 19000 (b) 21000 (c) 7300 (d) 4350  
 2. (a) 4L (b) 3L 500ml (c) 9L 8ml (d) 7L 980ml  
 3. 756L 4. 28L 5. 465ml

**MENTAL MATHS**

1. 8000ml 2. 4L 538ml 3. 700ml 4. 4 packets  
 5. 4 packets 6. L or ml 7. Ml 8. 1000

**CHAPTER-10**

**EXERCISE 10.1**

1. (a) four, four (b) equal (c) three, three (d) no  
 (e) equal  
 2. (a) Rectangle (b) circle (c) rectangle (d) cube  
 3. Yes 4. Yes 5. Yes 6. four  
 7. Three 8. (a) 2 (b) 4 (c) 9

**EXERCISE 10.2**

1. (a) (iii) (b) (v) (c) (i) (d) (iii) (e) (iv)  
 2. (a) No (b) Yes (c) No (d) Yes (e) No  
 (f) Yes (g) Yes  
 3. (a) False (b) False (c) True (d) True (e) False  
 (f) True (g) False

**EXERCISE 10.3**

1. Closed figures are (a), (c), (e) and (g)  
 2. (a) 3 (b) 3 (c) 3 (d) 7 (e) 7 (f) 3 (g) 7 (h) 3

**CHAPTER TEST**

1. (a) O (b) C (c) O (d) C  
 2. Do it yourself 3. Do it yourself  
 4. (a) four, four (b) one (c) Six (d) no (e) no (f) 8  
 5. (a) Cylinder (b) Cuboid (c) Sphere (d) Cube  
 6. Cube 7. Sphere 8. Cylinder

**MENTAL MATHS**

1. Cuboid 2. True 3. False  
 4. (a) four, four (b) three, three (c) no, no (d) 6, 2, 8 (e) 1 (f) 6  
 5. cube 6. Square 7. 1 8. cube, cuboid vestices  
 9. (a) 8 (b) 5, 5 (c) 12 (d) 6, 12, 8 (e) 1 (f) 6  
 10. (a) die (b) pipe (c) book (d) ball  
 11. (a) Cuboid (b) Cube (c) sphere (d) cuboid  
 12. (a) cuboid (b) 6 (c) 8 (d) 12

**CHAPTER-11**

**EXERCISE 11.1**

Do it yourself

**EXERCISE 11.2**

3. (a) Eight thirty Half (b) Two thirty Half (c) Seven thirty half  
 past eight past two past seven  
 (d) Eleven thirty (e) Five-fifteen  
 Half past eleven Quarter past  
 (f) Eleven-fifteen (g) Eight fifteen  
 Quarter past eleven Quarter past Eight  
 (h) Six fifteen  
 Quarter past six  
 2. (a) 74 (b) 2

**EXERCISE 11.3**

1. (a) 50 Minutes to 11 (b) 10 Minutes past 6  
 (c) 40 minutes to 3 (d) 55 Minutes to 5  
 (e) 25 Minutes past 4 (f) 20 Minutes past 2

2. Do it yourself.

3. (i)-(d) (ii)-(e) (iii)-(g) (iv)-(h) (v)-(b)  
 (vi)-(f) (vii)-(a) (viii)-(f) (ix)-(j) (x)-(i)

**EXERCISE 11.4**

1. March 2. July 3. December 4. September 5. December  
 6. February 7. September 8. No. 9. Wednesday

10. Wednesday

11. 4

12. 4

**CHAPTER TEST**

- A. 1. (b) 2. (c) 3. (b)  
 B. 1. (a) 9:07 (b) 3:30 (c) 12:50 (d) 12  
 2. (a) 60 (b) 24 (c) 2 (g) 180 (h) 120  
 (e) 5 (f) 3 (d) (v) (e) (ii)  
 3. (a) (iv) (b) (iii) (c) (i) (d) (v) (e) (ii)  
 4. (a) minutes (b) seconds (c) days 5. 9:54

**MENTAL MATHS**

1. Friday 2. 52 3. February 4. 15 5. 5  
 6. August 7. 29 8. 31 9. 4 10. 5

**CHAPTER-12**

**EXERCISE 12.1**

1. (a) 2 (b) 50 (c) 1 (d) One  
 2. (a) 100 (b) 60 (c) 100 (d) Rs. 110

**EXERCISE 12.2**

1. (a) 800 (b) 900 (c) 700 (d) 1800  
 (e) 2200 (f) 3000  
 2. (a) 6 (b) 420 (c) 970 (d) 1005  
 (f) 1850  
 3. (a) 6 (b) ₹ 7.05 (c) ₹ 3.50  
 (d) ₹ 32.75 (e) ₹ 0.65 (f) ₹ 0.50

**EXERCISE 12.3**

1. (a) ₹ 56.60 (b) ₹ 51.37 (c) ₹ 67.75  
 (d) ₹ 79.44 (e) ₹ 65.20 (f) ₹ 105.27  
 2. (a) ₹ 75.05 (b) ₹ 151.45 (c) ₹ 95.94  
 (d) ₹ 92.11 (e) ₹ 162.93 (f) ₹ 167.48  
 3. (a) ₹ 21.35 (b) ₹ 32.23 (c) ₹ 37.13  
 (d) ₹ 33.70 (e) ₹ 18.83 (f) ₹ 124.57  
 4. (a) ₹ 21.23 (b) ₹ 151.50 (c) ₹ 213.55 (d) ₹ 174.5  
 5. (a) ₹ 102.93 (b) ₹ 712.85 (c) ₹ 513.55  
 (d) ₹ 609.05 (e) ₹ 712.85 (f) ₹ 92.80  
 (g) ₹ 89.65 (h) ₹ 650.20  
 6. (a) ₹ 281.30 (b) ₹ 203.05 (c) ₹ 270.95  
 (d) ₹ 346.65 (e) ₹ 271.40 (g) ₹ 223.55

**EXERCISE 12.4**

1. (a) ₹ 24.80 (b) ₹ 99.36 (c) ₹ 84.46  
 (d) ₹ 69 (e) ₹ 228.75 (f) ₹ 432.88  
 2. (a) ₹ 253.86 (b) ₹ 115 (c) ₹ 381.85 (d) ₹ 110.25  
 3. (a) ₹ 36.65 (b) ₹ 19.53 (c) ₹ 10.08  
 (d) ₹ 7.82 (e) ₹ 26.90 (f) ₹ 34.67

**EXERCISE 12.5**

1. ₹ 140.75 2. ₹ 22.90 3. ₹ 708.75  
 4. ₹ 33.10 5. ₹ 17.31 6. ₹ 54.55  
 7. ₹ 255 8. ₹ 116.80 9. ₹ 133.60  
 10. ₹ 644.60 11. ₹ 10.34 12. ₹ 10.67

**CHAPTER TEST**

1. (a) ₹ 54.75 (b) ₹ 54.77 (c) ₹ 170.29 (d) ₹ 242.85  
 2. (a) ₹ 13.50 (b) ₹ 24.51 (c) ₹ 57.10 (d) ₹ 655.1  
 3. (a) ₹ 63 (b) ₹ 102.80 (c) ₹ 71.75 (d) ₹ 173.76  
 4. (a) ₹ 20.0 (b) ₹ 12.50 (c) ₹ 11.56 (d) ₹ 16.20  
 5. (a) ₹ 56 (b) ₹ 68.75 (c) ₹ 37.25 (d) ₹ 157.50 (e) ₹ 355.40

**EXERCISE 13**

**CHAPTER-13**

1. (a) Tuesday (b) Thursday (c) Friday (d) 130  
 2. (a) 80 (b) 60 (c) 5 (d) Brijnal (e) Brijnal  
 3. Do it yourself 4. Do it yourself  
 5. Do it yourself  
 6. (a) 15 (b) 20 (c) Science (d) German

# ANSWER SHEET

## CHAPTER-1

### EXERCISE 1.1

- (a) 3 (b) 2, 7, 3, 5 (c) 8, 4, 2, 6, 7 (d) 5, 0, 2, 1, 6
- (a) twenty six thousand seven hundred fifty.  
(b) Seventy nine thousand eighteen.  
(c) Six lakh seventy thousand five hundred twenty seven.  
(d) Five lakh fifty five thousand twenty one.  
(e) Eighty eight thousand one hundred seventy seven.  
(f) Sixty six thousand four hundred eight.  
(g) Six Lakh fifty three thousand nine hundred seventy three.  
(h) Nine lakh forty thousand fifty seven.  
(i) Nine lakh seventy five thousand four.  
(j) Three lakh thirty five thousand seven hundred twenty seven.  
(k) Seven lakh fifty seven.  
(l) Eight lakh ninety eight thousand three hundred twenty one.
- (a) 54,670 (b) 7,42,603 (c) 9,60,007 (d) 4,00,200  
(e) 2,20,130 (f) 8,04,057 (g) 7,00,317 (h) 3,80,603  
(i) 5,00,009 (j) 9,00,307
- (a) ix (b) x (c) v (d) i  
(e) vi (f) vii (g) ii (h) iv  
(i) iii (j) viii

### EXERCISE 1.2

- (a) 6 (b) 7 (c) 8
- (a) 70 (b) 300 (c) 9,00,000 (d) 60,000 (e) 10 (f) 700
- (a) 70 (b) 7 (c) 7,000 (d) 70,00 (e) 7,00,000  
(f) 70,000
- b, d, e
- (a) 5005 (b) 5,00,050 (c) 50,500 (d) 50,050
- (a) 69,993 (b) 6,993 (c) 6,930 (d) 6,993
- (a) 8 (b) 9 (c) 2 (d) 1
- (a)  $3000+500+90+7$  (b)  $40000+6000+200+30+8$   
(c)  $50000+7000+9$  (d)  $600000+10000+5000+90+8$   
(e)  $400000+80000+5000+500+40+6$   
(f)  $100000+50000+7000+30+7$   
(g)  $700000+50000+3000+200+10+7$   
(h)  $900000+10000+9000+20$
- (a) 6,442 (b) 27,343 (c) 7,70,408 (d) 8,50,792  
(e) 6,42,306 (f) 9,04,075

### EXERCISE 1.3

- (a) > (b) > (c) < (d) < (e) > (f) < (g) < (h) >  
(i) > (j) = (k) > (l) < (m) = (n) > (o) > (p) <
- (a) 517; 1,025; 2,091; 3,610; 61,395  
(b) 351; 1,678; 2,500; 6,135; 21,015  
(c) 5,861; 6,219; 18,905; 21,519; 56,827  
(d) 19,007; 26,871; 45,341; 3,65,727; 4,78,051
- (a) 62,519; 25,009; 9,165; 6,501; 653  
(b) 7,25,017; 1,00,009; 85,371; 56,785; 43,519  
(c) 7,19,076; 4,54,839; 2,81,263; 2,35,245; 81,526  
(d) 4,61,300; 2,91,730; 91,703; 5,725; 293
- (a) 75,636 (b) 43,600 (c) 8,29,258  
(d) 5,36,891 (e) 6,48,466 (f) 3,89,791

- (a) 32,675 (b) 5,37,999 (c) 6,57,498  
(d) 9,72,995 (e) 7,32,799 (g) 6,26,089
- 458, 485, 548, 584, 845, 854
- 764, 746, 674, 647, 476, 467
- (a) greatest = 8,653 smallest = 3,568  
(b) greatest = 8,532 smallest = 2,358  
(c) greatest = 7,430 smallest = 3,047
- (a) greatest = 9,652 smallest = 2,569  
(b) greatest = 7,610 smallest = 1,067  
(c) greatest = 8,763 smallest = 3,678
- (a) 1111 (ii) (a) 9998 (b) 98765

### EXERCISE 1.4

- (i) 20 (ii) 60 (iii) 90 (iv) 210 (v) 160  
(vi) 340 (vii) 510 (viii) 4,130 (ix) 5,720 (x) 8,510
- (i) 100 (ii) 300 (iii) 800 (iv) 900 (v) 2,100  
(vi) 2,400 (vii) 7,400 (viii) 4,100 (ix) 15,300 (x) 83,700
- (i) 1,000 (ii) 2,000 (iii) 6,000 (iv) 8,000 (v) 6,000

### CHAPTER TEST

- (a) 2. (b) 3. (b) 4. (b) 5. (b)
1. Fifty three thousand five hundred seventy two.  
2. Four lakh twenty nine thousand two.  
3. Five lakh fourty nine.  
4. Five lakh ninety thousand three hundred six.  
5. Seven lakh five thousand nine hundred four.  
6. Two lakh fifty four thousand six hundred eighty seven.  
7. Six lakh thirty two thousand five hundred four.  
8. Three lakh eight.
1. 19,524 2. 30,008 3. 5,00,226 4. 7,15,602
1. 5,00 2. 700,000 3. 0
1.  $2,00,000+20,000+5,000+100+90+8$   
2.  $3,00,000+80,000+3,000+6$   
3.  $7,00,000+40,000+1,000+900+30+6$
1. 5,03,850 2. 6,03,219 3. 8,00,308 4. 4,03,010

## CHAPTER-2

### EXERCISE 2

- (a) 20 (b) 16 (c) 15 (d) 9 (e) 30 (f) 25  
(g) 14 (h) 19 (i) 27 (j) 34 (k) 39 (l) 38
- (a) XVI (b) XVIII (c) XIV (d) XVII (e) XIX  
(f) XXXIII (g) XXI (h) XXVII (i) XXVIII (j) XXVI (k) XXXV  
(l) XXXVII (m) XXIII (n) XXXVI (o) XXXVIII (p) XXIX
- (a) > (b) < (c) = (d) > (e) < (f) =
- (c), (e)
- (a) VII (b) XXIX (c) XXI (d) XXVI (e) XXVI (f) XIV  
(g) XXIV (h) III

## CHAPTER-3

### EXERCISE 3.1

- (a) 79989 (b) 58999 (c) 19760  
(d) 77898 (e) 66618 (f) 39868  
(g) 69997 (h) 87989 (i) 85879
- (a) 8589 (b) 18618 (c) 5935  
(d) 98039 (e) 85979 (f) 39997

**EXERCISE 3.2**

1. (a) 114236 (b) 164329 (c) 123465 (d) 143302  
 (e) 63422 (f) 109938 (g) 146838 (h) 121406
2. (a) 59767 (b) 147606 (c) 122809 (d) 90500
3. (a) 98054 (b) 150484 (c) 199512 (d) 151497
4. 19999 5. 10999

**EXERCISE 3.3**

1. 73,866 2. 39,793 3. 1,37,250 4. 98,193  
 5. 43,711 6. 92,567 7. 31,845 8. 1,16,151  
 9. 67,462 10. 45,940

**EXERCISE 3.4**

1. (a) 51,321 (b) 42,051 (c) 43011 (d) 52,242  
 (e) 32,458 (f) 51,488 (g) 27,986 (h) 21,729  
 (i) 14,059 (j) 31,125
2. (a) 41,296 (b) 23,113 (c) 61,424 (d) 33,788  
 (e) 36,085 (f) 32,750 (g) 31,987 (h) 57,128  
 (i) 5863
3. (a) 6085 (b) 54,634 (c) 2644 (d) 15,068  
 (e) 18783 (f) 26,534
4. (a) 6523 (b) 8450 (c) 70936 (d) 63125  

$$\begin{array}{r} -1358 \\ 5165 \end{array}$$

$$\begin{array}{r} -2834 \\ 5716 \end{array}$$

$$\begin{array}{r} -51587 \\ 19349 \end{array}$$

$$\begin{array}{r} -55636 \\ 07489 \end{array}$$

**EXERCISE 3.5**

1. 500 2. 3467 3. 10005 4. 302 5. 3467  
 6. 500 7. 58067 8. 48457 9. 85558 10. 10005  
 11. 21341 12. 50500 13. 54131 14. 85104

**EXERCISE 3.6**

1. 542 2. 425 3. 3447 4. 8734 5. 11640  
 6. 10947 7. 16317 8. 51762 9. 103 10. 7325  
 11 (i) 96887 (ii) 55953 12. (i) 25343 (ii) 41822

**EXERCISE 3.7**

1. (a) 100 (b) 110 (c) 110 (d) 100 (e) 140  
 (f) 160 (g) 740 (h) 620
2. (a) 800,792 (b) 900,904 (c) 6500,6540 (d) 8600,8565  
 (e) 39500,39462 (f) 80500,80507
3. (a) 90000,90193 (b) 76000,76668 4. 1000

**EXERCISE 3.8**

1. (a) 30, Actual difference = 5 (b) 40, Actual differences = 7  
 (c) 60, Actual differences = 9 (d) 260, Actual differences = 1  
 (e) 520, Actual differences = 17 (f) 350, Actual differences = 1  
 (g) 2330, Actual differences = 9  
 (h) 6450, Actual differences = 1
2. (a) 500, Actual differences = 24 (b) 300, Actual differences = 84  
 (c) 4800, Actual differences = 71  
 (d) 2600, Actual differences = 13  
 (e) 43600, Actual differences = 42  
 (f) 16700, differences = 42
3. (a) 11,000 Actual differences = 106  
 (b) 10,000, Actual differences = 390  
 (c) 7000, Actual differences = 461

**HOTS**

1. NO 2. (a) +, -, + (b) +, -, +

**CHAPTER TEST (MCQ)**

- A. 1. (a) 2. (a) 3. (b) 4. (c) 5. (a)  
 B. 1. 7894 2. 19404 3. 21394 4. 97812  
 C. 29305 D. 99050

- E. 1. 22076 2. 21883 3. 41477 4. 41676  
 5. 13070 6. 21913  
 F. (a) 4470 (b) 6163 (c) 57653 (d) 3455  
 G. 14700, Actual no. = 14729  
 H. 1. 13515 2. 12441 3. 8999 4. 1

**MENTAL MATHS**

1. 30003 2. 0 3. 89943 4. 5841 5. 56  
 6. 1708 7. (a) 87,950 (b) 9900

**CHAPTER-4****EXERCISE 4.1**

- (a) 6206 (b) 13236 (c) 5252 (d) 7290 (e) 11005  
 (f) 7296 (g) 1656 (h) 2156 (i) 1575 (j) 4641  
 (k) 4248 (l) 2682 (m) 2781 (n) 7816 (o) 5904  
 (p) 15027 (q) 12212 (r) 10170 (s) 4628 (t) 16971  
 (u) 11456

**EXERCISE 4.2**

- (a) 5520 (b) 16600 (c) 19020 (d) 20650 (e) 56490  
 (f) 62400 (g) 60720 (h) 55170 (i) 213010 (j) 70400  
 (k) 157360 (l) 138550

**EXERCISE 4.3**

- (a) 544 (b) 1708 (c) 1806 (d) 2035 (e) 3145  
 (f) 3182 (g) 7821 (h) 5808 (i) 9796 (j) 16629  
 (k) 34916 (l) 63272 (m) 21140 (n) 26970 (o) 19910  
 (p) 81020 (q) 187226 (r) 116046 (s) 151441 (t) 175740

**EXERCISE 4.4**

- (a) 11700 (b) 22400 (c) 26600 (d) 28000 (e) 5800  
 (f) 15600 (g) 12400 (h) 27000 (i) 10000 (j) 34800  
 (k) 32000 (l) 20700 (m) 14400 (n) 2940 (o) 7800  
 (p) 18900 (q) 24600 (r) 40000 (s) 37100 (t) 39000

**EXERCISE 4.5**

- (a) 111825 (b) 152607 (c) 87505 (d) 259035 (e) 103250  
 (f) 182414 (g) 8016 (h) 36207 (i) 41354 (j) 228288  
 (k) 382500 (l) 131250 (m) 69000 (n) 180632 (o) 284208  
 (p) 64965

**EXERCISE 4.6**

1. (a) 200 (b) 2500 (c) 6300 (d) 6300  
 2. (a) 3500 (b) 3200 (c) 2500 (d) 4200  
 3. (a) 1800 (b) 2800 (c) 6400 (d) 7200  
 4. (a) 80000 (b) 150000 (c) 80000 (d) 12000  
 5. (a) 90000 (b) 150000 (c) 80000 (d) 150000

**EXERCISE 4.7**

1. ₹ 8,49,750 2. ₹ 637290 3. ₹ 1722240 4. ₹ 40920  
 5. ₹ 1300 6. ₹ 86250 7. ₹ 44640 8. ₹ 30750  
 9. ₹ 3174 10. 2555day 11. ₹ 2875 12. 44075books  
 13. 25296toys 14. 4800eggs

**CHAPTER TEST**

- A. 1. (b) 2. (b) 3. (c) 4. (b) 5. (b)  
 B. (a) 6048 (b) 7428 (c) 20480 (d) 6578 (e) 14634  
 (f) 42738 (g) 37515 (h) 69660 (i) 64604  
 C. (a) 3700 (b) 9450 (c) 20600 (d) 7600 (e) 7500  
 (f) 19600 (g) 49800 (h) 16200 (i) 35200  
 D. 1. 1250 2. 3300 3. 60750 4. 59450 5. 2760  
 E. 1. 2500 2. 2700  
 F. 1. 80000 2. 50000

**HOTS**

1. 19times 2. mines 7, Plus 9=40  
 2.  $5 \times 4 - 3 = 17$   $12 \times 3 + 4 = 40$

**MENTAL MATHS**

1.  $300 \times 300 = 90000$       2.  $28 \times 6$   
 3. 5      4. 200      5. 200

**CHAPTER-5****EXERCISE 5.1**

1. Quotient=7, Remainder=2      2. Quotient=8, Remainder=2  
 3. Quotient=8, Remainder=6      4. Quotient=11, Remainder=1  
 5. Quotient=15, Remainder=2      6. Quotient=21, Remainder=1  
 7. Quotient=69, Remainder=2      8. Quotient=111, Remainder=1  
 9. Quotient=91, Remainder=4      10. Quotient=61, Remainder=3  
 11. Quotient=190, Remainder=0      12. Quotient=120, Remainder=1  
 13. Quotient=140, Remainder=2      14. Quotient=131, Remainder=1  
 15. Quotient=71, Remainder=8      16. Quotient=89, Remainder=3

**EXERCISE 5.2**

1. Quotient=1002, Remainder=5      2. Quotient=219, Remainder=1  
 3. Quotient=837,      Remainder=4      4. Quotient = 1242, Remainder=2  
 5. Quotient=1200, Remainder=7      6. Quotient=851, Remainder=1  
 7. Quotient=1215, Remainder=1      8. Quotient=632, Remainder=4  
 9. Quotient=507, Remainder=1      10. Quotient=2220, Remainder=0  
 11. Quotient=456, Remainder=1      12. Quotient=1005, Remainder=0  
 13. Quotient=2012, Remainder=3      14. Quotient=505, Remainder=3  
 15. Quotient=1346, Remainder=2      16. Quotient=1076, Remainder=1

**EXERCISE 5.3**

1. Quotient=9, Remainder=3      2. Quotient=16, Remainder=4  
 3. Quotient=240, Remainder=8      4. Quotient=931, Remainder=6  
 5. Quotient=542, Remainder=9      6. Quotient=782, Remainder=7  
 7. Quotient=87, Remainder=32      8. Quotient=40, Remainder=23  
 9. Quotient=32, Remainder=51      10. Quotient=93, Remainder=50  
 11. Quotient=98, Remainder=79      12. Quotient=90, Remainder=28

**EXERCISE 5.4**

1. 6      2. 85      3. 1      4. 38      5. 18      6. 1      7. 275  
 8. 48      9. 1      10. 5      11. 66      12. 1      13. 0      14. 0  
 15. 0      16. 262

**EXERCISE 5.5**

1. 2      2. 5      3. 3      4. 4      5. 4      6. 5      7. 4  
 8. 4      9. 5      10. 5      11. 7      12. 20

**EXERCISE 5.6**

1. 8      2. 14      3. 8      4. 20      5. 40      6. 10      7. 30  
 8. 10      9. 3      10. 4      11. 4      12. 10      13. 35      14. 10  
 15. 10      16. 20

**EXERCISE 5.7**

1. Quotient=41, Remainder=0      2. Quotient=455, Remainder=17  
 3. Quotient=105, Remainder=0      4. Quotient=21, Remainder=19  
 5. Quotient=25, Remainder=24      6. Quotient=25, Remainder=30  
 7. Quotient=555, Remainder=7      8. Quotient=86, Remainder=6  
 9. Quotient=74, Remainder=12      10. Quotient=65, Remainder=0  
 11. Quotient=625, Remainder=2      12. Quotient=36, Remainder=2  
 13. Quotient=90, Remainder=5      14. Quotient=136, Remainder=5  
 15. Quotient=265, Remainder=13

**EXERCISE 5.8**

1. 27      2. 70      3. 36      4. 35      5. 372      6. 93  
 7. 673      8. 96      9. ₹ 103 and ₹ 12 left      10. 24

**CHAPTER TEST**

- A. 1. (a)      2. (a)      3. (c)      4. (a)      5. (b)  
 B. 1. Quotient=834, Remainder=4      2. Quotient=1786, Remainder=1  
 3. Quotient=862, Remainder=5      4. Quotient=469, Remainder=7  
 5. Quotient=1673, Remainder=3      6. Quotient=1597, Remainder=2  
 7. Quotient=80, Remainder=0      8. Quotient=81, Remainder=10  
 9. Quotient=168, Remainder=0      10. Quotient=135, Remainder=10  
 11. Quotient=350, Remainder=4      12. Quotient=89, Remainder=5

- C. 1. Quotient=3, Remainder=5      2. Quotient=18, Remainder=5  
 3. Quotient=17, Remainder=3      4. Quotient=68, Remainder=15  
 5. Quotient=410, Remainder=36      6. Quotient=950, Remainder=10  
 D. 1. 0      2. 2314      3. 9762      4. 105  
 E. 1. 102      2. 61Kg, 40Kg left      3. 30      4. 305      5. 90

**MENTAL MATHS**

1. Dividend = Quotient X Divisor + Remainder  
 2. 50      3. 1111      4. True      5. No      6. 596  
 7. 2895      8. 362, 0      9.  $32 \div 8 = 4$       10. 4      11. 20

**CHAPTER-6****EXERCISE 6.1**

1. (a) 8, 12, 16, 20, 24      (b) 18, 27, 36, 45, 54      (c) 16, 24, 32, 40, 48  
 (d) 22, 33, 44, 55, 66      (e) 28, 42, 56, 70, 84  
 2. (a) 36, 45, 54, 63      (b) 44, 55, 66, 77  
 (c) 48, 60, 72, 84      (d) 56, 70, 84, 98  
 3. (a) 6, 12, 18, 24, 30      (b) 8, 16  
 (c) 10, 20, 30      (d) 13, 39, 52, 65  
 4. (a) 65      (b) 72      (c) 77      (d) 36      (e) 90  
 5. (a) 6, 8      (b) 42, 48, 54      (c) 7, 14, 21, 28  
 (d) 20, 40      (e) 81, 90  
 6. (a) Multiples of 10 = 10, 20, 30, 40, 50, ...  
 Multiples of 5 = 5, 10, 15, 20, 25, ...  
 Common multiples of 10 and 5 = 10, 20, ...  
 (b) Multiples of 2 = 2, 4, 6, 8, 10, 12, 14, 16, 18, ...  
 Multiples of 5 = 5, 10, 15, 20, 25, ...  
 Common multiples of 2 and 5 = 10, 20  
 (c) Multiples of 3 = 3, 6, 9, 12, 15, 18, 21, 24, 27, 30, 33, ...  
 Multiples of 5 = 5, 10, 15, 20, 25, ...  
 Common multiples of 3 and 5 = 15, 30  
 (d) Multiples of 4 = 4, 8, 12, 16, 20, 24, 28, ...  
 Multiples of 6 = 6, 12, 18, 24, 30, 36, ...  
 Common multiples of 4 and 6 = 12, 24

**EXERCISE 6.2**

1. (a) 2, 4, 16      (b) 23, 46, 1      (c) 15, 5, 25      (d) 14, 7      (e) 3, 19  
 2. (a) ✓      (b) ✓      (c) ✗      (d) ✓      (e) ✓  
 (f) ✓      (g) ✓      (h) ✓      (i) ✓      (j) ✓  
 3. (a) no      (b) no      (c) yes      (d) yes  
 4. (a) 1, 2      (b) 4, 5      (c) 3, 4      (d) 2, 5  
 5. (a) 1, 3, 7, 21      (b) 1, 5, 25  
 (c) 1, 2, 3, 5, 6, 10, 15, 30  
 6. (a) 12      (b) 21      (c) 1, 2, 4, 7, 8, 14, 56  
 7. (a) Multiple, factors      (d) 60  
 (c) Factors, Multiple      (b) Multiples, factors  
 8. (a) 5      (b) 2, 4      (c) 2, 5, 10      (d) 2, 7, 14      (e) 2, 4, 6      (f) 4, 5  
 9. 14, 22, 42, 70, 206  
 10. 21, 35, 39, 63, 103      11. 42, 44, 46, 48, 50, 52, 54, 56, 58  
 12. 1, 3, 5, 7, 9, 11, 13, 15, 17, 19  
 13. 131, 133, 135, 137, 139, 141, 143, 145, 147, 149

**EXERCISE 6.3**

1. 216, 724      2. 246, 612      3. 920, 580      4. 96 & 180  
 5. (a) 10 and 20      (b) 18 and 36      (c) 20 and 30

**EXERCISE 6.4**

1. (a) 12, 24      (b) 84, 144      (c) 9, 18      (d) 35, 70  
 (e) 8, 16

**EXERCISE 6.5**

2. (a) 36      (b) 21      (c) 40      (d) 20      (e) 6  
 1. (a) 1, 3      (b) 1, 2, 7, 14      (c) 1, 2, 3, 6      (d) 1, 2, 4, 7  
 (e) 1, 2, 5, 10      (f) 1, 3

2. (a) 6 (b) 18 (c) 11 (d) 10 (e) 5 (f) 8  
 3. (a), (b), (c)

**CHAPTER TEST**

- A. 1. (c) 2. (b) 3. (a) 4. (a)  
 B. (a) 6, 12, 18, 24 (b) 8, 16, 24, 32 (c) 12, 24, 36, 48  
 (d) 20, 40, 60, 80 (e) 25, 50, 75, 100  
 C. (a) yes (b) yes (c) yes (d) no  
 D. (a) yes (b) yes (c) no (d) yes (e) no (f) 1, 5, 7, 35  
 (f) 1, 5, 7, 35 (g) 1, 2, 3, 6, 9, 18, 27, 54  
 (h) 1, 2, 3, 6, 13, 26, 39, 78  
 E. (a) 20, 40 (b) 12, 24 (c) 30, 60  
 F. (a) 1, 3, 9 (b) 1, 5 (c) 1, 2, 3, 6  
 G. Even = 78, 436, 850, 1432, Odd = 125, 5736 H. 1

**CHAPTER-7**

**EXERCISE 7.1**

1. (a) Equivalent (b) not equivalent (c) not equivalent  
 (d) Equivalent (e) not equivalent (f) Equivalent  
 (g) not equivalent (h) Equivalent (i) Equivalent  
 2. (a) Not Equivalent (b) Equivalent (c) Equivalent  
 (d) not Equivalent (e) equivalent

**EXERCISE 7.2**

1. (a), (b) and (h)  
 2. (a) 1, 7/13, 8/13, 9/13 (b) 23/45, 28/45, 33/45  
 (c) 16/33, 18/33, 20/33 (d) 21/7, 23/7, 25/7  
 3. (a) 1/8, 2/8, 3/8 (b) 2/10, 3/10, 4/10 (c) 4/13, 5/13, 6/13  
 4. (a) < (b) > (c) < (d) < (e) > (f) <  
 (g) > (h) > (i) >  
 5. (a) 21/39 (b) 18/33 (c) 23/28 (d) 20/31  
 6. (a) 1/24, 6/24, 18/24, 19/24 (b) 5/19, 8/19, 13/19, 17/19  
 (c) 5/29, 8/29, 16/29, 20/29 (d) 15/39, 19/39, 21/39, 30/39  
 7. (a) 25/28, 22/28, 16/28, 10/29 (b) 23/20, 18/20, 17/20, 16/20  
 (c) 16/22, 12/22, 8/22, 4/22 (d) 14/15, 13/15, 11/15, 10/15

**EXERCISE 7.3**

1. (a) 13, 4 (b) 2, 3, 5 (c) 3, 4, 7 (d) 2, 6, 9, 8 (e) 2, 1, 4, 7  
 2. (a) 4/6 (b) 5/7 (c) 7/8 (d) 5/11 (e) 6/9  
 (f) 7/10 (g) 10/11 (h) 14/15 (i) 15/20  
 3. (a) 14/16 (b) 8/14 (c) 5/6 (d) 9/11 (e) 8/10  
 (f) 10/12  
 4. (a) 3/19 (b) 2/22 (c) 6/19 (d) 18/33 (e) 4/21  
 (f) 7/37 (g) 7/15 (h) 4/17 (i) 6/20  
 5. (a) 8/17 (b) 3/22 (c) 2/30 (d) 2/19 (e) 5/25 (f) 14/38  
 6. (a) 8 (b) 4, 15 (c) 10, 21 (d) 15, 32

**EXERCISE 7.4**

1. (a), (c), (e), (f), (h) 2. (b), (d), (e), (g), (h) 3. (b), (c), (d), (f), (g), (h)

**EXERCISE 7.5**

1. (a) 93, 9/6 (b) 5, 2/4 (c) 16, 7/10 (d) 6, 5/7 (e) 9, 4/3

**EXERCISE 7.6**

1. (a) 3.1/2 (b) 4.2/8 (c) 1.8/17 (d) 2.1/16 (e) 1.2/9  
 2. (a) = 7.4/7 (b) 3.2/4 (c) 6.4/8

**CHAPTER TEST**

- A. 1. (b) 2. (b) 3. (a) 4. (a)  
 B. 1. Yes 2. Yes 3. No 4. No 5. Yes 6. Yes  
 C. 1. 7/11, 8/11, 9/11 2. 5/8, 6/8, 7/8  
 D. 1. < 2. < 3. >  
 E. 1. 14/21 2. 15/16 3. 8/24 4. 2/12 5. 3/17 6. 12/13  
 7. 18/24 8. 14/32 9. 4/15  
 F. 2/7, 69/70, 19/29

**MENTAL MATHS**

1. 3/5 2. 3 3. 7 4. 9/11 5. 3/5  
 9. Unlike - (a), (d); Like - (b), (c)

**CHAPTER-8**

**EXERCISE 8.1**

1. ₹ 1050 2. 625 pencils 3. ₹ 420 4. 546 litres  
 5. 4830 pages 6. 1664 km 7. 552 men 8. ₹ 6240

**EXERCISE 8.2**

1. ₹ 30 2. 9 kg 3. ₹ 400 4. ₹ 80 5. ₹ 60 metres

**EXERCISE 8.3**

1. 100 km 2. ₹ 2400 3. ₹ 180 4. ₹ 6800 5. ₹ 10,500

**CHAPTER-9**

**CHAPTER TEST**

- A. 1. ₹ 5.02 2. ₹ 149.25 3. ₹ 75.40 4. ₹ 139.45  
 5. ₹ 180.00 6. ₹ 119.00  
 B. 1. ₹ 12.90 2. ₹ 108.50 3. ₹ 132.00 4. ₹ 910.00  
 5. ₹ 643 2. ₹ 250  
 C. 1. ₹ 802.00 2. ₹ 690.00 3. ₹ 356.00 4. ₹ 1489.00  
 5. ₹ 443.00 6. ₹ 1618.00 7. ₹ 3483.00 8. ₹ 474.00  
 D. 1. ₹ 760.00 2. ₹ 3844.00 3. ₹ 1222.00 4. ₹ 2676.00  
 5. ₹ 3547.00 6. ₹ 747 7. ₹ 725 8. ₹ 2978.00

**MCQ**

- A. 1. C.P 2. C.P 3. ₹ 850 4. ₹ 580 5. Profit

**CHAPTER-10**

**EXERCISE- 10.1**

1. (a), (b), (e), (f), (g), (h), (i), (j), (l)  
 2. (a), (b), (d), (g), (i), (j)  
 3. Do it yourself  
 4. (a) OC (b) AB (c) O (d) PQ  
 5. Do it yourself  
 6. (a) triangle (b) quadrilateral (c) quadrilateral  
 (d) closed curve (e) Centre (f) circumference  
 (g) chord

**EXERCISE 10.2**

1. (a) yes (b) no (c) no (d) yes (e) yes (f) yes  
 (g) yes (h) yes (i) no (j) no (k) no (l) no  
 2. Do it yourself  
 3. (a) 3 (b) 4 (c) 1 (d) 1  
 (e) 2 (f) 3 (g) 4 (h) 1  
 4. Do it yourself  
 5. A, B, C, D, E, H, I, K, M, O, T, U, V, W, X, Y

**CHAPTER TEST**

- A. 1. (c) 2. (c) 3. (a) 4. (a) 5. (a)  
 B. 1, 2, 3 C. 1, 3, 5 D. Do it yourself  
 E. No F. centre - O, radii - OA, OB, OP  
 Diameter - AB, Chord - CD  
 G. 1. Chord 2. Chord 3. Half  
 4. Circumference 5. Centre

**CHAPTER-11**

**EXERCISE 11.1**

1. Do it yourself 2. Do it yourself  
 3. (a) 5000 m (b) 9000 m (c) 16000 m (d) 21000 m  
 (e) 31000 m (f) 40000 m (g) 78000 m (h) 99000 m  
 4. (a) 7305 m (b) 12060 m (c) 19215 m (d) 3620 m  
 (e) 42720 m (f) 98999 m  
 5. (a) 2 km 1m (b) 4 km 650m (c) 23km 951m (d) 12km 700m  
 (e) 75km 3m (f) 85km 678m  
 (g) 70km 503m (h) 99km 999m

**EXERCISE 11.2**

- (a) 3000g (b) 17000g (c) 71000g (d) 84000g  
(e) 98000g
- (a) 3900g (b) 42500g (c) 33400g (d) 55800g  
(e) 73080g (f) 95278g
- (a) 3kg 250g (b) 29kg 9g (c) 53kg 900g (d) 48kg 505g  
(e) 63kg 550g (f) 78kg 500g
- (a) 600g (b) 650g (c) 500g (d) 300g  
(e) 200g (f) 50g
- (a) 1kg 700g (b) 2000g (c) 3kg 200g (d) 4kg 40g
- (a) 500g (b) 900g (c) 1kg 400g (d) 1kg 500g

**EXERCISE 11.3**

- (a) 9000ml (b) 24000ml (c) 52000ml (d) 79000ml  
(e) 42000ml (f) 91000ml (g) 65000ml (h) 89000ml
- (a) 7420ml (b) 48875ml (c) 73061ml (d) 70171ml  
(e) 52048ml (f) 83961ml
- (a) 8L 327ml (b) 41L 980ml (c) 75L 275ml (d) 90L 659ml  
(e) 50L 270ml (f) 89L 288ml

**EXERCISE 11.4**

- (a) 37m (b) 61km 870m (c) 19km 638m  
(d) 18kg 633g (e) 56L 550ml (f) 544L 340ml
- (a) 7m 60cm (b) 4km 653m (c) 6km 288m  
(d) 62kg 675g (e) 4L 336ml (f) 2L 825ml
- 10km 810m 4. 38L 135ml 5. 1L 285ml
- 6L 950ml

**CHAPTER TEST**

- A. 1. (b) 2. (c) 3. (b) 4. (b)
- B. 1. (a) 50km 50gm (b) 34km 1m (c) 640km 1m  
2. (a) 57067g (b) 81018g (b) 43003g  
3. (a) 70L 684ml (b) 10L 34ml (c) 33L 3ml  
4. (a) 3m (b) 1kg

**CHAPTER-12****EXERCISE 12.1**

1. (a) metre tape (b) metre tape (c) ruler  
(d) metre tape 2. Do it yourself 3. Do it yourself

**EXERCISE 12.2**

- (a) 14 cm (b) 6 cm (c) 16 cm (d) 20 cm
- (a) 12 cm (b) 24 cm (c) 26 cm (d) 28 cm  
(e) 32 cm (f) 36 cm

**EXERCISE 12.3**

1. (a) 15 cm (b) 19 cm (c) 26 cm (d) 18 cm

**EXERCISE 12.4**

- (a)  $10\text{ cm}^2$  (b)  $16\text{ cm}^2$  (c)  $2.25\text{ cm}^2$  (d)  $8.4\text{ cm}^2$   
(e)  $6\text{ cm}^2$  (f)  $40\text{ cm}^2$
- (a)  $60\text{ cm}^2$  (b)  $40\text{ cm}^2$  (c)  $224\text{ cm}^2$  (d)  $218.75\text{ cm}^2$   
(e)  $244\text{ cm}^2$  (f)  $64\text{ cm}^2$
- (a)  $21.6\text{ cm}^2$  (b)  $7.29\text{ cm}^2$  (c)  $26.01\text{ cm}^2$  (d)  $144\text{ cm}^2$   
(e)  $576\text{ cm}^2$  (f)  $985.96\text{ cm}^2$

**CHAPTER TEST**

- A. 1. False 2. False 3. True 4. True 5. True  
B. Do it yourself

**CHAPTER-13****EXERCISE 13.1**

1. (a) 4:10 (b) 7:25 (c) 2:53 (d) 8:23  
(e) 9:45 (f) 12:04 (g) 6:34 (h) 5:57

**EXERCISE 13.2**

- A. 1. a.m. 2. p.m. 3. p.m. 4. p.m. 5. a.m. 6. p.m.  
7. p.m. 8. p.m.

- B. 5:45 p.m. 2. 6:40 a.m. 3. 12:05 a.m. 4. 12:10 a.m.  
5. 12:40 a.m. 6. 9:35 p.m.
- C. 1. 9:35 a.m. 2. 11 p.m. 3. 2:10 a.m.  
4. 11 p.m. 5. 12 or midnight 6. 12 noon

**EXERCISE 13.3**

1. 5:45 a.m. 2. 6:40 p.m. 3. 1hr 55min 4. 16hr 50min  
5. 9:00 p.m. 6. 2:00 p.m.
7. (a) 1hr 10min (b) 1hr 45min

**EXERCISE 13.4**

1. 32 days 2. 26 days 3. 74 days 4. 28 October  
5. 11 May 6. 15 days 7. 35 days 8. 30 days

**CHAPTER TEST**

- A. 1. 7:05 2. 11:55 3. 2:30 4. 10:38 5. 4:12  
6. 7:28
- B. 1. p.m. 2. a.m. 3. a.m. 4. p.m.
- C. 1. 15 min 2. 45 min 3. 15 min 4. 45 min
- D. 1. a.m. 2. p.m. 3. p.m.
- E. 6.45 a.m. F. 1hr 15 minutes G. 1hr 55 min

**MENTAL MATHS**

1. 30 min 2. 12 O'clock 3. p.m. 4. p.m. 5. a.m.  
6. 12:40 a.m. 7. 3:15 8. 7:22 9. 12 p.m. 10. 1:30 p.m.

**CHAPTER-14****EXERCISE 14.1**

1. ₹151.00 2. ₹139.75 3. ₹122.75  
4. ₹201.00 5. ₹269.00 6. ₹292.00

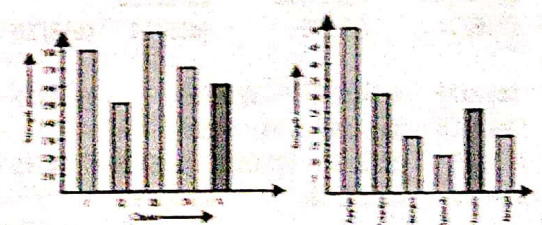
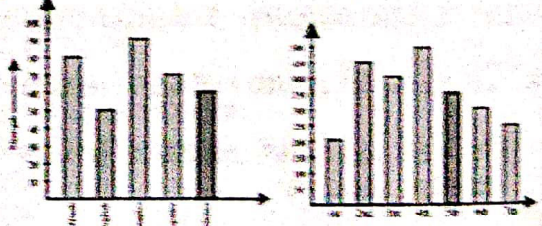
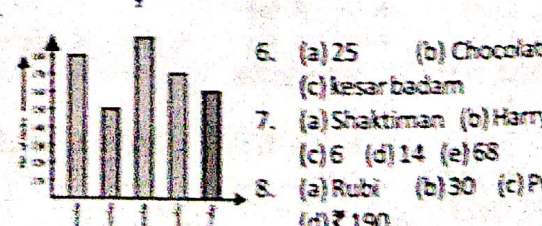
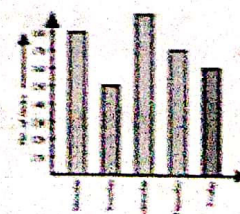
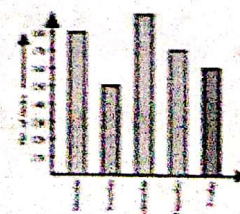
**EXERCISE 14.2**

1. ₹11.25 2. ₹15.95 3. ₹101.75  
4. ₹11.65 5. ₹268.95 6. ₹278.45

**CHAPTER TEST**

1. (a) ₹116.75 (b) ₹70.00  
2. ₹3.75 3. ₹13.00 4. ₹12.50  
5. ₹5.25 6. ₹2.75

**CHAPTER-15****EXERCISE- 15.1**

1. 
2. 
3. 
4. 
5. 
6. (a) 25 (b) Chocolate and vanilla  
(c) kesar badam
7. (a) Shaktiman (b) Harry Potter  
(c) 6 (d) 14 (e) 68
8. (a) Rubi (b) 30 (c) Preeti  
(d) ₹ 190

# ANSWER SHEET

## CHAPTER-1

### EXERCISE 1.1

- (a) Four crore eighty three lakh seventy four thousand six hundred fifty.  
(b) Six crore thirty four lakh eighty thousand fifteen.  
(c) Five crore forty two lakh thirty eight thousand ten.  
(d) Five crore thirty thousand one hundred eight.  
(e) Six crore thirty eight lakh nine hundred twenty three.  
(f) Eight crore twenty five lakh twelve thousand two hundred five.  
(g) Two crore seventy five lakh four thousand ninety four.  
(h) Four crore fifty four lakh twenty five thousand one hundred eighty four.  
(i) Nine crore nine.
- (a) 75,05,008 (b) 3,06,04,946 (c) 9,00,00,503  
(d) 4,51,05,710 (e) 9,00,12,006 (f) 5,05,00,505
- (a) 5,19,123 (b) 11,41,350 (c) 7,08,129
- (a) Twenty five million six hundred eighty three thousand four hundred seventy five.  
(b) Thirty million eight hundred seven thousand five hundred fifty one.  
(c) Eighty one million nine hundred twenty three thousand fifty four.  
(d) One hundred forty million nine hundred five thousand three hundred nineteen.  
(e) Two hundred thirty one million six hundred thousand one hundred forty eight.  
(f) Four Hundred ninety million three hundred thousand seven.  
(g) One hundred one million ten thousand one.  
(h) Twenty three million thousand one hundred.  
(i) Five hundred sixty million one thousand ten.
- (a) 66,119,019 (b) 289,069,048 (c) 105,208,009  
(d) 716,002,03 (e) 301,002,031 (f) 10,003,031  
(g) 201,002,028

### EXERCISE 1.2

- (a) 2,00,000 (b) 4,00,00,000 (c) 0  
(d) 8,00,000 (e) 10 (f) 3,00,00,000
- 60,00,000 3. 3,96,000
- (a)  $30000000+5000000+800000+30000+9000+700+20+1+4$   
(b)  $60000000+7000000+500000+90000+300+80+2$   
(c)  $2,00,00,000+50,00,000+3,00,000+60,000+5,000+100+10+6$   
(d)  $5,00,00,000+3,00,000+50,000+800+40+5$   
(e)  $9,00,00,000+7$   
(f)  $3,00,00,000+10,00,000+40,000+800+2$
- (a) 3,40,35,386 (b) 5,08,06,208  
(c) 8,71,34,005 (d) 9,52,06,308
- (a) < (b) > (c) > (d) < (e) < (f) < (g) < (h) >
- (a) 98,25,800 (b) 2,05,10,010  
(c) 20,0,00,000 (d) 9999999  
(e) 99999999
- (a) 7,34,99,999 (b) 9,85,63,109 (c) 2,01,01,009  
(d) 1,00,00,000 (e) 10,00,000
- (a) 1,477,387; 1,487,320; 1,497,322; 1,497,655  
(b) 2,652,083; 2,652,103; 2,652,609; 2,652,803  
(c) 7,678,002; 7,678,200; 7,687,020; 7,687,200  
(d) 37,12,100; 37,22,011; 37,44,033; 37,44,066

- (e) 43,56,006; 43,56,600; 43,56,708; 43,58,784
- (a) 3,473,908; 3,473,842; 3,473,709; 3,473,708  
(b) 7,431,876; 7,431,786; 7,413,876; 7,413,786  
(c) 5,903,215; 5,903,115; 5,093,715; 5,093,512  
(d) 60,16,812; 60,16,182; 60,15,112; 60,15,108  
(e) 21,71,005; 21,53,005; 21,51,005; 21,21,005
- (a) smallest No- 20456 ; Greatest No ; 65420
- (a) Smallest No- 1234679 ; Greatest No- 9764321  
(b) Smallest No- 2034567 ; Greatest No- 7654320
- Smallest- 10023478 ; Greatest No- 8743210
- (a) 99999999 (b) 1,00,00,000

### EXERCISE 1.3

- (a) 1360000 (b) 3510000 (c) 550000 (d) 2650000
- (a) 340000 (b) 8600000 (c) 4700000 (d) 3500000
- (a) 83000000 (b) 42000000 (c) 73000000 (d) 95000000
- (a) 400000000 (b) 220000000 (c) 50000000 (d) 110000000
- (a) 593702160 (b) 593702200 (c) 593702000 (d) 593700000  
(e) 593700000 (f) 594000000 (g) 590000000

### EXERCISE 1.4

- (a) a=XL (b) XLV (c) CX (d) LXXX (e) XXI  
(f) CC (g) MC (h) DCCL (i) D
- (a) 56 (b) 1204 (c) 90 (d) 650 (e) 99  
(f) 3500 (g) 622 (h) 309

### CHAPTER TEST

- (b) 2. (c) 3. (a) 4. (c)
1. 4,69,07,204 2. 5,13,00,00,000 3. 2,8,44,30,000  
4. Rs. 5,11,47,525
- (a) 16,60,52,860 (b) 16,60,52,900 (c) 16,60,53,000  
(d) 16,60,50,000 (e) 16,61,00,000 (f) 16,60,00,000  
(g) 17,00,00,000
- (a) Two crore fifty lakh thirteen thousand nine hundred thirty eight.  
(b) Seven crore three thousand four hundred fifteen.  
(c) Six crore seventy lakh twenty thousand one hundred two.
- (a) 3,24,05,810 (b) 5,03,08,901 (c) 9,00,02,008
- (a) 20,000 (b) 69,99,300
- (a) 2,75,019; 25,19,780; 50,13,625; 19,50,0547; 61435814
- 7,64,01,521; 7,46,01,521; 6,13,51,009; 57,19,320; 5,73,219
- (a) Two hundred fifteen thousand five hundred thirty nine.  
(b) One hundred ninety five thousand one hundred eighty five.  
(c) Nine hundred twenty six thousand twenty eight.
- (a) 2,035,760 (b) 5,009,639 (c) 8,006,005
- (a) 26,200 (b) 7,43,300
- (a) 9,999,999 (b) 99,99,876

### MENTAL MATHS

- 9 2. 176003. 500 4. 140 5. 300 6. 50

### CHAPTER-2

#### EXERCISE 2.1

- 4,26,784,480 2. 71,50,96,973 3. 10,04,68,828
- 944070109 5. 64,91,69,020 6. 10,55,63,017
- 42936677 8. 27,86,28,118
- (a) 5,77,43,818 (b) 2,62,31,186
- 3,91,04,000 11. 6,41,520
- 8,92,67,122 13. 15858710
- (a) 22,79,628 (b) 34,12,826 (c) 4,32,57,36,604  
(d) 46295764 15. 85,38,200

**EXERCISE 2.2**

1. (a) 7350 (b) 346800 (c) 4199400  
 (d) 3870000 (e) 2700000 (f) 642000000  
 (g) 457600 (h) 8652000 (i) 6580000
2. (a) 5913790 (b) 27739104 (c) 27418496  
 (d) 5602730 (e) 6470400 (f) 216000000  
 (g) 365184000 (h) 337103025 (i) 175076853  
 (j) 33508068
3. 14837515 4. 1072972800 5. 203320000

**EXERCISE 2.3**

1. 5320 2. 375 3. 328228 4. 40050 5. 18000  
 6. 8 7. 973 8. 1572 9. 15954 10. 1500

**CHAPTER TEST**

- A. 1. (b) 2. (c) 3. (a) 4. (b) 5. (b)  
 A. 1. (b) 2. (c) 3. (a) 4. (c) 5. (c)  
 B. 1. 46907204 2. 450000000 3. 284430000  
 4. 51147525
5. (a) 166052860 (b) 166052900 (c) 166053000  
 (d) 166050000 (e) 166100000 (f) 166000000  
 (g) 170000000

**MENTAL MATHS**

1. 11,100 2. 1,00,00,000 3. 1,00,000  
 4. 2,00,000 5. 300 6. No

**CHAPTER-3****EXERCISE 3.1**

1. (a) 14, 16, 18, 20 (b) 65, 60, 55, 50  
 (c) 220, 200, 180, 160 (d) 43, 50, 57, 64
2. (a) 125, 216, 343, 512 (b) 20, 24, 28, 32  
 (c) 64, 81, 100, 121 (d) 41, 51, 61, 71

**EXERCISE 3.2**

1. (a) 7 (b) 1 (c) 3 (d) 3  
 2. (a) 12741 (b) 5089 (c) 63675  
 3. (a) 123454321 (b) 111111, 1111111 (c) 100000, 1000000  
 (d) 277775 (e) 400016, 4000016  
 4. (a) 18,108,1008,10008,100008  
 (b) 16,104,992,9880,98768

**CHAPTER-4****EXERCISE 4.1**

1. (a) 9,12,15,18,21 (b) 18,24,30,36,42  
 (c) 27,36,45,54,63 (d) 33,44,55,66,77  
 (e) 45,60,75,90,105 (f) 120,160,200,240,260
2. (b), (c), (d) 3. (c), (d) 4. (d), (a)  
 5. (b), (c), (a), (d) 6. (a), (e), (f), (d)

**EXERCISE 4.2**

1. 13,7,47 2. 9,14,18,21,24,46,74,87,99  
 3. (a) 5,7,11 (b) 11,13,17,19 (c) 11,13,17,19,23  
 (d) 2,3,5,7 (e) 31,37 (f) 37,41,43,47  
 (g) 83,89 (h) 59,61,67 (i) 97
4. (a)  $2 \times 3 \times 7$  (b)  $2 \times 2 \times 2 \times 2 \times 3$  (c)  $3 \times 11$   
 (d)  $3 \times 3 \times 5$  (e)  $2 \times 2 \times 2 \times 2 \times 5$  (f)  $2 \times 2 \times 2 \times 7$   
 (g)  $2 \times 3 \times 5 \times 7$  (h)  $2 \times 2 \times 5 \times 5$  5. (a) and (c)

**EXERCISE 4.3**

1. (a) 1 (b) 1,2,3,6 (c) 1,3,9 (d) 1,3  
 (e) 1,5 (f) 1,2,4,8 (g) 1,3,9
2. (a) 12,24,36 (b) 40,80,120 (c) 30,60,90  
 (d) 36,72,108 (e) 20,40,60 (f) 12,24,36  
 (g) 60,120,180 (h) 60,120,180 (i) 60,120,180  
 (j) 28,56,84 (k) 12,24,36  
 (l) 20,40,60 (m) 30,60,90

**EXERCISE 4.4**

1. (a) 5 (b) 12 (c) 25 (d) 14 (e) 16 (f) 22

- (g) 35 (h) 60 (i) 18 (j) 7  
 2. (a) 3 (h) 10 (c) 4 (d) 19 (e) 1 (f) 5  
 (g) 15 (h) 5 (i) 5

**EXERCISE 4.5**

1. (a) 1050 (b) 315 (c) 168 (d) 1122 (e) 1470  
 (f) 180 (g) 1575 (h) 144 (i) 990
2. (a) 1200 (b) 2376 (c) 54 (d) 210 (e) 1485  
 (f) 1540 (g) 504 (h) 1230 (i) 3795

**EXERCISE 4.6**

1. (a) HCF=4 (b) HCF=5 (c) HCF=16 (d) HCF=18  
 LCM=80 LCM=180 LCM=96 LCM=360
2. (a) LCM=108 (b) LCM=336 (c) LCM=54 (d) LCM=76  
 HCF=9 HCF=8 HCF=18 HCF=38
3. (72) 4. (5) 5. (4) 6. (150) 7. (60)

**CHAPTER TEST**

- A. 1. (a) 2. (a) 3. (c) 4. (b)  
 5. (a) No (b) Yes (c) Yes (d) No (e) No (f) Yes  
 6. 93, Yes 7. (a) 93 (b) 4  
 8. (a) 90 (b) 42 9. (a) 2 (b) 4 © 4,6

**MENTAL MATH**

1. 12,24 2. 31&37 3.2 4. 21,28,35 5. 36,72,108,144 6. 6

**CHAPTER-5****EXERCISE 5.1**

1. (a)  $\frac{1}{3}$  (b)  $\frac{2}{4}$  (c)  $\frac{2}{6}$
2. Do it yourself  
 3. (a), (c)  
 4.  $\frac{1}{3}, \frac{3}{8}, \frac{5}{8}$   
 5. Proper fraction:  $\frac{2}{3}, \frac{4}{6}, \frac{5}{6}, \frac{3}{3}, \frac{6}{6}, \frac{9}{9}$   
 Improper fraction:  $\frac{3}{3}, \frac{6}{6}, \frac{9}{9}$   
 6.  $3\frac{1}{7}, 4\frac{1}{5}, 2\frac{1}{6}$   
 7.  $\frac{1}{3}, \frac{1}{5}, \frac{1}{7}, \frac{1}{12}$   
 8. (a)  $\frac{1}{16}$  (b)  $\frac{1}{28}$  (c)  $\frac{1}{32}$  (d)  $\frac{1}{40}$  (e)  $\frac{1}{56}$  (f)  $\frac{1}{72}$  (g)  $\frac{1}{64}$  (h)  $\frac{1}{96}$

**EXERCISE-5.2**

1.  $\frac{16}{22}, \frac{24}{33}, \frac{32}{44}, \frac{40}{55}$  2.  $\frac{4}{14}, \frac{6}{21}, \frac{8}{28}, \frac{10}{35}, \frac{12}{42}$
3. (a) 20 (b) 32 (c) 30 (d) 28 (e) 40 (f) 21  
 4. (a)  $\frac{24}{39}$  (b)  $\frac{40}{65}$  5. (a)  $\frac{7}{21}$  (b)  $\frac{21}{63}$  (c)  $\frac{70}{210}$   
 6. (a)  $\frac{30}{35}$  (b)  $\frac{72}{84}$  (c)  $\frac{78}{91}$   
 7. (a), (b), (c)

**EXERCISE-5.3**

1. (a) No (b) Yes (c) Yes (d) No (e) Yes (f) No  
 (g) No (h) Yes
2. (a)  $\frac{1}{2}$  (b)  $\frac{5}{7}$  (c)  $\frac{3}{5}$  (d)  $\frac{4}{5}$   
 3. (a)  $\frac{1}{2}$  (b)  $\frac{3}{4}$  (c)  $\frac{5}{7}$  (d)  $\frac{3}{4}$  (e)  $\frac{2}{3}$

**EXERCISE-5.4**

1. (a) > (b) < (c) > (d) < (e) > (f) <  
 2. (a)  $\frac{5}{7}$  (b)  $\frac{3}{7}$  (c)  $\frac{11}{12}$  (d)  $\frac{14}{15}$  (e)  $\frac{7}{11}$   
 (f)  $\frac{8}{9}$  (g)  $\frac{9}{10}$  (h)  $\frac{7}{8}$  (i)  $\frac{4}{5}$

3. (a)  $\frac{3}{10}$  (b)  $\frac{1}{5}$  (c)  $\frac{3}{16}$  (d)  $\frac{9}{20}$  (e)  $\frac{2}{5}$  (f)  $\frac{1}{9}$

4. (a) < (b) > (c) < (d) > (e) > (f) >  
(g) = (h) = (i) >

**EXERCISE-5.5**

1. (a)  $\frac{5}{10}$  (b)  $\frac{11}{14}$  (c)  $\frac{7}{8}$  (d)  $\frac{13}{16}$  (e)  $\frac{13}{24}$  (f)  $\frac{13}{15}$

(g)  $\frac{14}{30}$  (h)  $\frac{9}{12}$  (i)  $\frac{37}{48}$  (j)  $\frac{7}{12}$  (k)  $\frac{19}{24}$  (l)  $\frac{13}{16}$

(m)  $\frac{29}{36}$  (n)  $\frac{26}{28}$  (o)  $\frac{23}{30}$  (p)  $\frac{29}{36}$  (q)  $\frac{35}{40}$  (r)  $\frac{27}{42}$

2. (a)  $\frac{1}{14}$  (b)  $\frac{4}{12}$  (c)  $\frac{1}{12}$  (d)  $\frac{1}{10}$  (e)  $\frac{23}{60}$  (f)  $\frac{1}{40}$

(g)  $\frac{13}{56}$  (h)  $\frac{35}{48}$  (i)  $\frac{19}{48}$  (j)  $\frac{1}{42}$  (k)  $\frac{16}{35}$  (l)  $\frac{5}{15}$

**EXERCISE-5.6**

1. (a)  $\frac{8}{5}$  (b)  $\frac{21}{11}$  (c)  $\frac{40}{9}$  (d)  $\frac{20}{9}$  (e)  $\frac{3}{2}$  (f)  $\frac{5}{2}$

(g)  $\frac{9}{2}$  (h)  $\frac{33}{8}$

2. (a)  $\frac{6}{35}$  (b)  $\frac{1}{30}$  (c)  $\frac{5}{21}$  (d)  $\frac{21}{32}$  (e)  $\frac{20}{99}$  (f)  $\frac{27}{280}$

(g)  $\frac{3}{70}$  (h)  $\frac{40}{189}$

**EXERCISE-5.7**

1. (a)  $\frac{1}{8}$  (b)  $\frac{1}{25}$  (c) 8 (d)  $\frac{7}{3}$  (e)  $\frac{16}{11}$  (f)  $\frac{17}{18}$

(g)  $\frac{9}{8}$  (h)  $\frac{13}{11}$

2. (a)  $\frac{2}{15}$  (b)  $\frac{1}{24}$  (c)  $\frac{3}{20}$  (d)  $\frac{7}{48}$  (e)  $\frac{7}{40}$  (f)  $\frac{1}{12}$

(g)  $\frac{4}{55}$  (h)  $\frac{15}{128}$

3. (a)  $\frac{4}{15}$  (b)  $\frac{27}{40}$  (c)  $\frac{6}{7}$  (d)  $\frac{42}{55}$  (e)  $\frac{5}{2}$  (f)  $\frac{13}{14}$

(g)  $\frac{7}{4}$  (h)  $\frac{75}{72}$

4. (a) 12 (b)  $\frac{11}{2}$  (c)  $\frac{40}{3}$  (d) 16 (e) 28 (f) 36

(g) 44 (h) 42

**EXERCISE-5.8**

1.  $\frac{3}{4}$  2.  $\frac{47}{6}$  3.  $\frac{1}{7}$  4.  $\frac{29}{7}$

5. ₹  $\frac{1000}{3}$  spent and ₹  $\frac{1500}{3}$  saved

6. 750 7. Flowing plants = 100, Non-Flowering plants = 50

8. ₹ 370 9. 360 km 10. 6 glasses

**CHAPTER TEST**

A. 1. (a) 33 (b) 6 (c) 5 (d) 4

2. (a)  $\frac{18}{10}$  (b)  $\frac{18}{21}$  (c)  $\frac{18}{28}$  (d)  $\frac{18}{48}$

3. (a)  $\frac{24}{32}$  (b)  $\frac{20}{32}$  (c)  $\frac{16}{32}$  (d)  $\frac{18}{32}$

4. (a) > (b) > (c) =

5. (a)  $\frac{5}{4}$  (b)  $\frac{3}{2}$  (c)  $\frac{11}{7}$  (d)  $\frac{4}{3}$  (e)  $\frac{7}{6}$  (f)  $\frac{1}{30}$  (g)  $\frac{1}{60}$  (h)  $\frac{11}{34}$

6. (a)  $\frac{40}{17}$  (b)  $\frac{3}{2}$  (c)  $\frac{3}{10}$  (d)  $\frac{12}{35}$  (e)  $\frac{3}{4}$

7. (a) 10 (b)  $\frac{5}{12}$  (c)  $\frac{9}{10}$  (d)  $\frac{7}{6}$  (e)  $\frac{1}{15}$

**CHAPTER-6**

**EXERCISE-6.1**

1. (a) .7 (b) .017 (c) 7.7 (d) .003  
(e) .09 (f) .61 (g) 1.017 (h) 7.7

2. (a)  $\frac{7}{100}$  (b)  $\frac{48}{100}$  (c)  $\frac{171}{10}$  (d)  $\frac{37}{1000}$

(e)  $\frac{13146}{1000}$  (f)  $\frac{123123}{1000}$  (g)  $\frac{7107}{100}$  (h)  $\frac{7046}{1000}$

3. (a) Thirteen point eight.  
(b) Seventeen point six one three.  
(c) Thirty five point nine.  
(d) Twelve point zero seven.  
(e) Eighteen point two six.  
(f) Fifty six point zero six three.

4. (a) .07 (b) .008 (c) 4.003 (d) 82.311  
(e) 417.389

**EXERCISE-6.2**

1. (a) .9 (b) .7 (c) .23 (d) .17 (e) .58  
(f) 5.4 (g) .99 (h) 1.95 (i) 7.38 (j) .05

(h) 19.5 (i) 7.38 (j) .05 (k) 19.5 (l) 1.758  
(m) .547 (n) .017 (o) .1

2. (a)  $\frac{7}{10}$  (b)  $\frac{5}{10}$  (c)  $\frac{8}{100}$  (d)  $\frac{97}{100}$  (e)  $\frac{10}{100}$

(f)  $\frac{301}{100}$  (g)  $\frac{8475}{100}$  (h)  $\frac{99}{100}$  (i)  $\frac{903}{10}$  (j)  $\frac{267}{1000}$

(k)  $\frac{992}{1000}$  (l)  $\frac{6875}{100}$  (m)  $\frac{2975}{1000}$  (n)  $\frac{56}{100}$  (o)  $\frac{17006}{1000}$

3. (a) Zero point three. (b) Zero point two six.  
(c) Three point five eight. (d) Ten point six nine.  
(e) Eight point two three. (f) One point nine.  
(g) Two point zero eight. (h) Zero point zero six.  
(i) Five point six four. (j) Eighteen point two zero.

4. (a) 5.2 (b) 8.11 (c) 15.17 (d) 11.2 (e) 43.36  
(f) 8.113 (g) 6.5 (h) 67.19 (i) 242.42 (j) 109.017

**EXERCISE 6.3**

1. (a)  $4 + \frac{6}{10}$  (b)  $10 + 8 + \frac{9}{10}$  (c)  $200 + 40 + \frac{7}{10} + \frac{2}{100}$

(d)  $500 + 80 + 3 + \frac{6}{100}$  (e)  $400 + 50 + 1 + \frac{2}{10} + \frac{7}{100} + \frac{8}{1000}$

(f)  $900 + 3 + \frac{1}{10} + \frac{4}{100}$  (g)  $1 + \frac{3}{10} + \frac{5}{100} + \frac{8}{1000}$  (h)  $10 + 7 + \frac{5}{10} + \frac{4}{100} + \frac{1}{1000}$

(h)  $10 + 7 + 5 + 10 + 4 + 100 + 1 + 1000$

2. (a) 241.57 (b) 63.75 (c) 3.54 (d) 500.609  
(e) 82.306 (f) 0.769 3. (a) and (d)

4. (a) 6.500, 2.801, 12.530, 17.437  
(b) 125.652, 7.400, 0.060, 15.089

© 125.510, 246.800, 19.001, 0.250  
(d) 0.870, 2.574, 6.300, 105.730

**EXERCISE 6.4**

1. (a) > (b) < (c) > (d) > (e) < (f) <  
(g) < (h) > (i) <

2. (a) 1.8, 4.3, 12.3, 12.57  
 (b) 1.654, 16.354, 16.53, 165.4  
 (c) 9.06, 9.63, 90.6, 96.5  
 (d) 21.3, 21.572, 21.58, 21.584
3. (a) 10.37, 10.35, 9.5, 8.9  
 (b) 125.75, 125.7, 12.57, 1.257  
 (c) 6.53, 6.350, 6.305, 6.30  
 (d) 12.83, 12.57, 12.542, 12.54

**EXERCISE 6.5**

1. (a) 7.58 (b) 76.78 (c) 12.966 (d) 31.568 (e) 100.07  
 (f) 158.617 (g) 131.942 (h) 286.143
2. (a) 30.02 (b) 30.6 (c) 122.747 (d) 105.77
3. (a) 20.3 (b) 29.995 (c) 84.859 (d) 12.774 (e) 28.36  
 (f) 8.01 (g) 28.613 (h) 16.445
4. (a) 4.97 (b) 9.187 (c) 26.637 (d) 24.703 (e) 54.826  
 (f) 67.63

**EXERCISE 6.6**

1. 19.75 seconds 2. Rs. 174.5 3. 97.75 Kg  
 4. 25.025 Km 5. 25.5 m 6. Rs. 36.00  
 7. 145.385 Kg 8. Rs. 2694.75 9. 60.48m  
 10. 104.04 ml

**EXERCISE 6.7**

1. (a)  $5/6 \times 100$  (5/6%) (b)  $2/8 \times 100$  (2/8%) (c)  $6/8 \times 100$  (6/8%)  
 (d)  $9/10 \times 100$  (9/10%)
2. (a) 36% (b) 15% (c) 125% (d) 82%
3. (a)  $7/20$  (b)  $4/5$  (c)  $13/20$  (d)  $3/2$
4. (a) 0.74 (b) 1.09 (c) 0.40 (d) 0.06
5. (a)  $9/4$  (b) 500L (c) 35g (d) 270km
6. (a) 4% (b) 4% (c)  $9/2\%$  (d) 18%
7. (a) 500 (b) 681.9 (c) 500 (d) 300
8. (a) 1200 9. Rs 1750 10. 81.5%

**CHAPTER TEST**

1. (a) .3 (b) .19 (c) .006 (d) 3.85  
 (e) .09
2. (a)  $\frac{6}{10}$  (b)  $\frac{7}{100}$  (c)  $\frac{19}{10}$  (d)  $\frac{882}{100}$  (e)  $\frac{765}{1000}$
3. (a)  $60 + 5 + \frac{2}{10}$  (b)  $2 + \frac{3}{10} + \frac{8}{100} + \frac{5}{1000}$   
 (c)  $700 + 30 + 6 + \frac{1}{100}$  (d)  $600 + 200 + 7 + \frac{3}{10}$
4. (a) 783.14 (b) 65.027 (c) 2907.03
5. (a) < (b) < (c) = (d) >  
 (e) < (f) =
6. (a) 74.57 (b) 58.58 (c) 77.193 (d) 131.718  
 (e) 118.691 (f) 257.43
7. (a) 21.85 (b) 3.807 (c) 17.984 (d) 29.254  
 (e) 630.063 (f) 14.682

**MENTAL MATH**

1. 2 (2)  $68/100$  (3) .110 (4) 2.8m (5) 5m 30cm  
 (6) = (7) correct (8) 696.8 (9) No (10) 10 & 100

**CHAPTER-7**

**EXERCISE 7.1**

1. (a) Point (b) Line (c) Ray (d) Line Segment  
 (e) Point (f) Line Segment (g) Line
2. C, D, E, F, G, H
3. AE EF FB AB AF EB
4. (a) True (b) False (c) False (d) True (e) True

**EXERCISE 7.2**

1. (a)  $\angle BAC$  or  $\angle CAB$  (b)  $\angle EDF$  or  $\angle FDE$   
 (c)  $\angle YXZ$  or  $\angle ZXY$  (d)  $\angle MVN$  or  $\angle NVM$

- (e)  $\angle PQR$  or  $\angle RQP$  (f)  $\angle WYU$  or  $\angle UYW$
2. (a) 3;  $\angle A, \angle B, \angle C$  (b) 4;  $\angle P, \angle Q, \angle R, \angle S$   
 (c) 4;  $\angle X, \angle U, \angle V, \angle W$  (d) 6;  $\angle I, \angle M, \angle N, \angle O, \angle P, \angle Q$

**EXERCISE 7.3**

1. (a) Right angle (b) Obtuse angle (c) Acute angle  
 (d) Obtuse angle (e) Acute angle (f) Obtuse angle  
 (g) Obtuse angle (h) Acute angle
2. (a) Acute angle (b) Obtuse angle (c) Obtuse angle  
 (d) Obtuse angle (e) Acute angle (f) Acute angle  
 (g) Right angle (h) Acute angle (i) Obtuse angle  
 (j) Straight angle (k) Obtuse angle (l) Acute angle

**EXERCISE 7.4**

1. (a) (AB, DC) and (BC, AD) (b) (FB  $\perp$  BC), (GC  $\perp$  BC)  
 2. (a) AC  $\perp$  BD (b) No

**EXERCISE 7.5**

1. (a) False (b) True (c) False (d) True (e) True (f) False
2. (a) Right angled (b) Obtuse angled (c) Acute angled
3. (a) scalene (b) equilateral (c) equilateral
4. (a), (e) and (f) represent angles of a triangle.

**EXERCISE 7.6**

2. radii  $\rightarrow$  OA, OB, OC and OD chords  $\rightarrow$  CD and EF  
 Diameter  $\rightarrow$  AB
3. (a) 8 cm (b) 12 cm (c) 22 cm (d) 20 cm (e) 1m
4. (a) 1 cm (b) 4 cm (c) 8 mm (d) 12 cm (e) 3.5 cm

**MENTAL MATH**

- (1) Yes (2) False (3) obtuse (4)  $360^\circ$   
 (5) 4 (6) True (7) Straight angle

**CHAPTER TEST**

2. (a) Acute (b) Obtuse (c) Obtuse (d) Straight  
 (e) Right (f) Acute
3. (a) Isosceles (b) Scalene (c) Isosceles  
 (d) Equilateral (e) Scalene (f) Equilateral

**CHAPTER-8**

**EXERCISE- 8.1**

1. (a) Mg (b) l (c) 100 (d) 10 (e) 1000  
 (f) 10000
2. (a) 1000 (b) 100 (c) 10 (d) 10 (e) 10

**EXERCISE- 8.2**

1. (a) 6000m (b) 8000 g (c) 7500 ml (d) 5225 g  
 (e) 11925 m (f) 2670 l
2. (a) 2 Km (b) 459 Km (c) 320 Km (d) 8.5 km  
 (e) 4.025 km (f) 6.75 Km (g) 8.8 Km (h) 10.105 Km
3. (a) 3 Kg (b) 12 Kg (c) 8 Kg 750 g (d) 6 Kg 95 g  
 (e) 2 Kg 500 G (f) 1.50 Kg (g) 70 Kg (h) 278. 50 Kg
4. (a) 4l 250 ml (b) 7g 305 mg (c) 9m 505 mm (d) 8 Kg 90 g  
 (e) 7 Kl 300 l (f) 1 Km 75 m

**EXERCISE- 8.3**

1. (a) 6.5 m (b) 12.373 Km (c) 5.325 Km (d) 25.480 Kg
2. (a) 107.45 m (b) 33.615kg (c) 18.965 Kg  
 (d) 9.758 Km (e) 3.015 Km (f) 9.997 Kg
3. (a) 162.5 m (b) 898.072 Km (c) 920.592 Kg  
 (d) 58.95 Km (e) 563.952 Kg (f) 14330.655 Kg
4. (a) 17.3094 Kg (b) 34.1200625 m (c) 3.04 m (d) 24.008 Kl

**EXERCISE- 8.4**

1. 35 Kg 20 g 2. 11 l 685 ml 3. 1 Kg 50 g  
 4. 4m 80 cm 5. 29 Km 30 m 6. 5 Km 788m  
 7. 510 m 8. 99.525 Kl 9. 256.5 g  
 10. 18.45 l 11. 324.30 m 12. 4.012l

**CHAPTER TEST**

- A. 1. (c) 2. (a) 4. (c) 5. (c)

- B. 1. (a) 1400 dm (b) 80 dm (c) 4000 mm (d) 8 hm  
 (e) 5.236 dm (f) 5 hm  
 2. (a) 80 dm (b) 120 g (c) 5000 CG (d) 8.630 G  
 (e) 41 Kg (f) 7.31 dg  
 3. (a) 40 Kl (b) 700 cl (c) 16000 cl (d) 3.2 dl  
 (e) 0.090 Kl (f) 7.3 cl  
 4. (a) 70m 63 cm (b) 77g 291 mg (c) 321592 ml  
 (d) 95 m 181 mm  
 5. (a) 25 Kl 896 l (b) 4 Km 873 m (c) 77m 21 cm  
 (d) 53 m 651 mm

#### MENTAL MATHS

1. 100      2. 1      3. 10      4. 4.2      5. 5400  
 6. 50000      7. 2.530      8. 8      9. 800      10. 50

#### CHAPTER-9

##### EXERCISE 9.1

1. (a) 240 Sq. cm (b) 6720 Sq. m (c) 100 Sq. cm  
 (d) 84. Sq. m  
 2. (a) 10 cm (b) 24 cm (c) 32 cm  
 (d) 58 cm  
 3. (a) 10.5 cm (b) 15 m (c) 60 m (d) 23 m  
 4. (a) 169 Sq. cm (b) 441 Sq. cm (c) 324 Sq. cm  
 (d) 484 Sq. cm (e) 961 Sq. cm (f) 1681 Sq. cm  
 5. (a) 289 Sq. cm  
 6. 8 cm      7. ₹ 147      8. Hari, 6475 Sq. m

##### EXERCISE 9.2

1. (a) 106 sq.m (b) 111 sq.m. (c) 82 sq.m  
 (d) 36 sq.m (e) 500 sq.cm (f) 345 sq.cm  
 (g) 192 sq.cm (h) 512 sq.cm

##### EXERCISE 9.3

1. (a) 10 cm (b) 12 cm (c) 16 cm  
 (d) 20 cm (e) 24 cm (f) 30 cm  
 2. (a) 4 cm (b) 20 cm (c) 28 cm  
 (d) 40 cm (e) 100 cm (f) 140 cm  
 3. (a) 3 cm (b) 6 cm (c) 8 cm  
 (d) 16 cm (e) 22 cm (f) 55 cm  
 4. (a) 38 cm (b) 350 cm (c) 404 cm  
 (d) 148 mm

##### EXERCISE 9.4

1. (a) 125 cm<sup>3</sup> (b) 343 cm<sup>3</sup> (c) 175.616 cm<sup>3</sup>  
 (d) 50.653 cm<sup>3</sup>  
 2. (a) 189 cm<sup>3</sup> (b) 144 cm<sup>3</sup> (c) 89.04 cm<sup>3</sup>  
 (d) 208 m<sup>3</sup> (e) 241.92 cm<sup>3</sup> (f) 191.1 cm<sup>3</sup>  
 3. 4500 cm<sup>3</sup>      4. 96 m<sup>3</sup>      5. 600

#### CHAPTER TEST

- A. 1. (a)      2. (c)      3. (b)      4. (b)      5. (c)  
 B. 1. (a) 6720 m<sup>3</sup> (b) 100 cm<sup>3</sup> (c) 400 cm<sup>2</sup>  
 (d) 324 cm<sup>2</sup>      2. (a) 225 (b) 5      3. 1,416.1m  
 4. 216 cm<sup>3</sup>      5. 1320 cm<sup>3</sup>

#### CHAPTER-10

##### EXERCISE- 10.1

1. (a) 0420 hours (b) 1725 hours (c) 2400 hours or 0000 ours  
 (d) 0545 hours (e) 1250 hours (f) 1355 hours  
 (g) 1640 hours (h) 1842 hours (i) 2035 Hours  
 2. (a) 5 :29 p.m. (b) 3 : 27 a.m. (c) 12 : 48 a.m.  
 (d) 11 : 58 p.m. (e) 6: 00 a.m. (f) 12 mid-night  
 (g) 9 : 44 p.m. (h) 10 : 48 pm. (i) 11 : 55 p.m.

##### EXERCISE- 10.2

1. (a) 540 Minutes (b) 960 Minutes  
 (c) 1260 Minutes (d) 1380 Minutes  
 2. (a) 150 seconds (b) 2880 seconds  
 (c) 21600 seconds (d) 26700 seconds

3. (a) 7 hours 7 minutes (b) 8 hours 38 minutes  
 (c) 10 hours 45 minutes (d) 14 hours 56 minutes  
 4. (a) 27 minutes 55 seconds (b) 46 minutes 4 seconds  
 (c) 661 minutes 22 seconds (d) 710 minutes 2 seconds

#### EXERCISE- 10.3

1. (a) 9 hours 50 minutes (b) 15 hours 40 minutes  
 (c) 25 hours (d) 13 hours 10 minutes (e) 14 minutes 45Sec  
 2. (a) 2 hours 25 minutes (b) 2 hours 44 minutes  
 (c) 6 hours 52 minutes (d) 14 hours 36 minutes  
 (e) 4 minutes 8 seconds  
 3. (a) 12:02 p.m (b) 8:20 a.m.  
 (c) 35 minutes (d) 4 hours & 05 min.

#### EXERCISE- 10.4

1. (a) 4 (b) decade (c) 18th (d) 1947 A.D (e) 500 B.C.  
 2. (a) 35 days (b) 14 decades (c) 14.67 years  
 (d) 6.7 years (e) 85.5 weeks (f) 6 years  
 3. (a) 20 th (b) 21 st (c) 8 years  
 4. (a) 54 years (b) 4 years (c) 50 years

#### CHAPTER TEST

1. (c) 480 minutes (b) 1080 minutes (c) 1200 minutes  
 (d) 1140 minutes  
 2. (a) 5 hours (b) 10 hours 20 minutes  
 (c) 20 hours 25 minutes (d) 30 hours 35 minutes  
 3. (a) 0515 hours (b) 1845 hours  
 (c) 1200 hours (d) 1945 hours  
 4. (a) 3:30 p.m. (b) 5:38 a.m. (c) 00:45 a.m. (d) 8:48 p.m.  
 5. (a) 22 hours 55 minutes (b) 42 hours 10 minutes  
 (c) 40 hours 5 minutes (d) 56 minutes 15 seconds  
 6. (a) 8 hours 22 minutes (b) 16 hours 12 minutes  
 (c) 8 hours 7 minutes (d) 5 hours 59 minutes  
 7. 8:50 a.m.      8. 5 hours 35 minutes

#### MENTAL MATHS

1. 1440      2. a.m      3. 120, 7200      4. 495  
 5. 1925      6. 4:40      7. 3:40      8. 1

#### FUN WITH MATHS

1. 5:50 p.m      2. First  
 CHAPTER-11

##### EXERCISE 11.1

1. ₹ 9      2. ₹ 18      3. ₹ 21      4. ₹ 700      5. 144 km  
 6. 96 km      7. ₹ 7950      8. ₹ 550      9. ₹ 102375      10. ₹ 630

##### EXERCISE 11.2

1. (a) gain ₹ 129 (b) loss ₹ 1 (c) gain ₹ 13.86  
 (d) loss ₹ 30  
 2. loss ₹ 110.50      3. gain ₹ 7.75      4. gain ₹ 470      5. gain ₹ 14  
 6. gain ₹ 10      7. loss ₹ 10      8. ₹ 775

#### CHAPTER TEST

1. (a) 2. (b)      3. (c)      4. (b)      5. 7 hours, 150 km  
 6. ₹ 168  
 7. (a) ₹ 445 (b) ₹ 7,670 (c) ₹ 13160 (d) ₹ 19,460  
 8. (a) ₹ 6,430 (b) ₹ 10,860 (c) ₹ 11,760 (d) ₹ 9,610  
 9. profit ₹ 8400

#### MENTAL MATHS

1. C.P.      2. C.P.      3. Profit      4. ₹ 700  
 5. loss ₹ 145      6. C.P., S.P.

#### CHAPTER-12

##### EXERCISE 12.1

1. (a) Anoop (b) Ram and Shyam (c) Manish  
 4. (a) 80 (b) Table Tennis (c) Skating and checkers  
 (d) 340

##### EXERCISE 12.2 Do it yourself



# ANSWERS

## Exercise 2.1

- (i) Three thousand five hundred forty  
(ii) Three thousand ninety  
(iii) Forty-one thousand eight hundred two.  
(iv) Eighty thousand four hundred twenty three.  
(v) Thirty nine thousand sixty one.  
(vi) Forty three thousand five hundred seven.  
(vii) Ninety thousand seven hundred thirteen.  
(viii) Seventy thousand eight hundred seven.
- (i) 3441 (ii) 71057 (iii) 82406  
(iv) 60006 (v) 90463
- 99999, Ninety-nine thousand nine hundred ninety-nine.
- One thousand
- By adding 1 to it

## Exercise 2.2

- (i) 2, 62, 38, 259 – Two crore sixty-two lakh thirty-eight thousand two hundred fifty-nine.  
(ii) 34, 28, 32, 787 – Thirty-four crore twenty-eight lakh thirty-two thousand seven hundred eighty-seven.  
(iii) 50, 40, 08, 006 – Fifty crore forty lakh eight thousand six.  
(iv) 77, 56, 105 – Seventy-seven lakh fifty-six thousand one hundred five.  
(v) 25, 54, 618 – Twenty-five lakh fifty-four thousand six hundred eighteen  
(vi) 2, 39, 40, 017 – Two crore thirty-nine lakh forty thousand seventeen.  
(vii) 8, 34, 22, 507 – Eight crore thirty-four lakh twenty-two thousand five hundred seven.  
(viii) 71, 23, 00, 017 – Seventy-one crore twenty-three lakh seventeen.
- (i) 4,16,30,457 (ii) 21,71,110  
(iii) 1,91,13,783 (iv) 33,93,64,200  
(v) 8,29,10,110 (vi) 85,00,60,299  
(vii) 9,00,03,008 (viii) 40,00,00,800
- (i) 9,65,41,544 (ii) 61,32,27,095  
(iii) 81,32,14,002
- (i) 74,64,499 (ii) 54,10,10,207  
(iii) 2,32,54,658

## Exercise 2.3

- (i) 7 (ii) 2 (iii) 8

### 2. Place value Chart

	T-L	L	T-Th	Th	H	T	O
(i)	7	7	5	0	9	3	4
(ii)	9	0	6	3	4	0	6
(iii)	5	3	5	0	0	8	1
(iv)	3	8	2	5	9	6	1

(i) 30 (ii) 3,000 (iii) 3,00,000

(iv) 30,00,000

- (i) 800 or Eight hundred  
(ii) 80,000 or Eighty thousand (iii) 80 or Eighty
- (i) 9,00,000 or Nine lakh
- (i) 3,99,996 (ii) 396 (iii) 3,996
- 8,00,800
- 49,500
- (i)  $30,00,000 + 4,00,000 + 70,000 + 50 + 2$   
(ii)  $90,00,000 + 8,00,000 + 50,000 + 700 + 40 + 3$   
(iii)  $30,00,00,000 + 8,00,00,000 + 10,00,000 + 8,00,000 + 30,000 + 7,000 + 200 + 90 + 1$   
(iv)  $5,00,00,000 + 3,00,000 + 70,000 + 200 + 80 + 3$   
(v)  $60,00,000 + 1,00,000 + 80,000 + 7,000 + 200 + 10 + 3$   
(vi)  $5,00,000 + 40,000 + 2,000 + 500 + 70 + 3$   
(vii)  $60,00,00,000 + 7,00,00,000 + 60,00,000 + 4,00,000 + 70,000 + 2,000 + 500 + 90 + 8$   
(viii)  $60,00,00,000 + 2,00,00,000 + 10,00,000 + 7,00,000 + 90,000 + 3,000 + 800 + 80 + 1$
- (i) 7,08,254 (ii) 9,30,640 (iii) 7,09,085  
(iv) 80,37,503

## Exercise 2.4

- (i)  $>$  (ii)  $=$  (iii)  $<$  (iv)  $>$  (v)  $>$  (vi)  $>$
- Greatest Number Smallest Number  
(i) 93,75,821 5,18,421  
(ii) 82,98,15,674 32,98,34,765  
(iii) 7,87,96,342 27,65,349  
(iv) 5,09,10,845 3,60,90,845
- (i) 5,52,367; 6,35,105; 8,08,729; 75,24,620  
(ii) 12,78,35,218; 23,34,52,159; 33,61,76,128; 42,61,52,830  
(iii) 28,372; 92,87,681; 1,98,31,638; 3,86,73,838  
(iv) 71,68,105; 74,25,003; 74,85,004; 74,89,002
- (i) 60,08,29,389; 7,00,12,809; 6,00,58,903; 1,00,37,509  
(ii) 6,12,98,502; 6,12,45,702; 3,12,62,012; 41,25,072  
(iii) 5,07,93,166; 5,07,16,963; 56,07,693; 16,07,369  
(iv) 38,87,587; 38,78,597; 8,85,787; 3,98,577
- Greatest number – 9,76,310, Smallest number – 1,06,379
- Smallest number – 10,458, Greatest number – 85,410
- 9,87,65,310
- (i) 1,02,35,678
- Smallest number – 20,00,468, Greatest number – 88,86,420
- Smallest number – 1,00,000, Greatest number – 9,99,999
- (i) 9,99,999 (ii) 9,99,998 (iii) 9,87,654
- 10,00,023
- (i) 9487, 1402 (ii) 9807, 1203 (iii) 9875, 1025  
(iv) 8976, 8012
- Do it yourself
- (i) 8170, 7108 (ii) 7810, 7018 (iii) 8701, 1708
- (i) C (ii) a (iii) b (iv) d

### Exercise 2.5

- (i) 1 (ii) 1 (iii) 10 (iv) 100 (v) 10
- (i) 8,782,448 (ii) 5,023,157 (iii) 60,765,445  
(iv) 9,421,373 (v) 408,541,754  
(vi) 281,564,724 (vii) 90,054,180 (viii) 981,008,803
- (i) Nineteen million two hundred forty-six thousand five hundred twenty.  
(ii) Eight million five hundred eighty-six thousand forty-two.  
(iii) Seven million eight hundred thirty-six thousand, seven hundred ninety-five.  
(iv) Fifty-two million five hundred sixty thousand two hundred sixteen.  
(v) Ninety-eight million one hundred thirteen thousand four hundred eighty-three.  
(vi) Five hundred thirty-one million three hundred twenty-five thousand nine hundred twenty-three.  
(vii) Two hundred sixty-three million two hundred six thousand twelve.  
(viii) Eighty-nine million nine hundred twenty-one thousand three hundred seventy-two.
- (i) 83,40,15,208 (ii) 20,53,06,409  
(iii) 17,20,65,067 (iv) 14,090 (v) 8,04,212
- (i) Five million five thousand two hundred seventeen.  
(ii) Seventy million five hundred twelve thousand three hundred sixty-two  
(iii) One hundred forty-two million two hundred thousand nine hundred forty
- (i) Nine crore twelve lakh twenty-six thousand four hundred four  
(ii) Thirty-five lakh four thousand three hundred fifteen  
(iii) Fifty crore seventy lakh six thousand twenty-seven
- ₹ 10,22,025 8. 4,64,17,391 9. 1,61,40,094 10. ₹ 235
11. 51,156 12. 9,430 kg 46 g 13. 500 l
14. 8,643 16. 2 m 15. 974 pages 17. 10, 30, 481
18. 7,13,040 19. 9,83,124 20. 3,900 g, 3.9 kg 21. 1 m 30 cm
- (i) 5,000 cm (ii) 0.25 m (iii) 3.8 cm (iv) 2,700 m  
(v) 4150 g (vi) 150 m (vii) 18 kg (viii) 4.15 kg  
(ix) 2.856 L (x) 9L (xi) 32.450 g (xii) 28.560 L
23. 67250
- (i) a (ii) b (iii) d

### Exercise 3.1

- (i) 8,35,675 (ii) 60,000 (iii) 53,08,770
- 2497, 2498, 2499
- (i) 29,9,999 (ii) 73,05,929 (iii) 70,56,824
- 7909, 7910, 7911 5. Do it yourself
- (i) 8 (ii) 11 (iii) 24 (iv) 1001  
(v) 2001 (vi) 501
- (i) largest (ii) 0 (iii) natural

### Exercise 3.2

Do it yourself

### Mental Maths-2

- True 2. (i) 3. 22 4. 1
5. 16 or 24 6. 11 7. True

### Enrichment Exercise

- (i) Multiplication (ii) 1
- odd, because when a whole number multiplied by 2, we get an even number then subtract from it, we get an odd number, odd, greater than 1

### Exercise 4.1

- 20 2. 23 3. 4 4. 40
6. 10 5. 360 7. 22 8. 72.15
9. 90 10. 131 11. 1005 12. 105
13. 28 14. 101

### Exercise 4.2

- (i) 1, 2, 3, 6, 9, 18 (ii) 1, 2, 4, 8 (iii) 1, 2, 3  
(iv) 1, 2, 3, 4, 6, 8, 9, 12, 18, 24, 36, 72  
(v) 1, 2, 4, 7, 8, 14, 28, 56  
(vi) 1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30, 60  
(vii) 1, 2, 3, 4, 6, 7, 8, 12, 14, 21, 24, 28, 42, 56, 84, 168
- Yes, 13962 is exactly divisible by 39 and leave no remainder. So, 39 is a factor of 13962.
- 6, 12, 18, 24, 30 4. 11, 22, 33, 44
- (i) Yes (ii) Yes
- 780 7. 3996 8. Yes 9. No
- 35, 45, 55, 65 11. 26, 52, 78
- There is no such number. 13. No 14. 1
- (i) 12, 15, 18 (ii) 28, 42, 49, 56  
(iii) 15, 20, 25, 30, 35, 40, 45 (iv) 36, 48, 72
- (i) True (ii) False (iii) False (iv) False  
(v) True
- (i) Yes (ii) Yes (iii) No (iv) No
- (i) Yes (ii) Yes (iii) Yes (iv) No
- (a) (ii) (b) (v) (c) (i) (d) (iv)  
(e) (iii) (f) (vi)

### Exercise 4.3

- (i) 17, 5, 19, 29, 11, 47 (ii) 2, 3, 5, 7, 11  
(iii) 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31
- (i) Prime (ii) Composite (iii) Prime  
(iv) Prime (v) Prime (vi) Composite
- (i) 11, 13, 17, 19, 23, 29, 31, 37  
(ii) 31, 37, 41, 43, 47, 53, 59 (iii) 83, 89, 97
- 25 5. (3,5) (5,7) (11,13) (17,19) (29, 31) 6. 2
- (i) 3 + 41 (ii) 5 + 31 (iii) 5 + 19 (iv) 5 + 13
- Yes, 9
- (i) (a)  $2 \times 3$  (b)  $5 \times 7$   
(ii) (a)  $13 + 19$  (b)  $13 + 71$
- $2 \times 3 \times 5 + 1$  11.  $54 = 23 + 31$ ,  $60 = 7 + 53$
- 18, 35
- (i) 13, 31, 17, 71 (ii) (3, 13); (13, 23)
- (i) It will have more than 2 factors, like 4 has factors 1, 2, 4; 9 has factors 1, 3, 9; 16 has factors 1, 2, 4, 16, etc.  
(ii) It will be divisible by 1, 2 and more numbers  
(iii) It will have 1, 5 and more numbers as factors

15. Composite - (i), (ii), (iv) Twin prime - (iii), (v), (vi)  
 16. 75 17 5  
 18. (i) odd (ii) even  
 19. (i) 2 (ii) even (iii) natural number  
 (iv) composite number (v) 4 (vi) 1  
 20. (i) (b) (ii) (c) (iii) (d) (iv) (b)

Exercise 4.4

Number	2	4	5	8	10
120	✓	✓	✓	✓	✓
624	✓	✓	✗	✓	✗
990	✓	✗	✓	✗	✓
1730	✓	✗	✓	✗	✓
6240	✓	✓	✓	✓	✓

Number	3	6	9	11
1324	✓	✓	✗	✗
9335	✗	✗	✗	✗
21048	✓	✓	✗	✗
71232	✓	✓	✗	✗
23324	✗	✗	✗	✗
901351	✗	✗	✗	✓
10000001	✗	✗	✗	✓
369216	✓	✓	✓	✗

3. (i) 1 (ii) 2 (iii) 1  
 4. (i) 22 (ii) 25 (iii) 50  
 5. (i) 1 (ii) 2 (iii) 0  
 6. Try yourself  
 7. (i) F (ii) F (iii) T (iv) F  
 (v) T (vi) T  
 8. (i) Yes (ii) Yes (iii) Yes (iv) Yes  
 9. (i) No (ii) Yes (iii) Yes (iv) No  
 10. (iii), (vi), (vii), (viii) 11. (ii), (iv), (v)  
 12. (i) 0 (ii) 0 (iii) 5 (iv) 0  
 (v) 9 (vi) 0 (vii) 0 (viii) 0  
 (ix) 6 (x) 4  
 13. (i) 9 (ii) 9 (iii) 9 (iv) 2  
 (v) 9 (vi) 9 (vii) 9 (viii) 6  
 14. (i) c (ii) d (iii) b (iv) d

Exercise 4.5

1. (i)  $2 \times 3 \times 3 \times 3 \times 7$  (ii)  $2 \times 2 \times 2 \times 2 \times 2 \times 3$   
 (iii)  $2 \times 2 \times 7$  (iv)  $2 \times 2 \times 5 \times 7 \times 11$   
 (v)  $2 \times 3 \times 5 \times 13$  (vi)  $2 \times 2 \times 11 \times 29$   
 (vii)  $2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 2$   
 2. 1 and the number itself 3.  $10000 = 2 \times 2 \times 2 \times 2 \times 5 \times 5 \times 5 \times 5$   
 4.  $9999 = 3 \times 3 \times 11 \times 101$   
 5. (i)  $2 \times 3 \times 4 = 24$  is divisible by 6 (ii)  $5 \times 6 \times 7 = 210$  is divisible by 6  
 6. (i) 3, 2 (ii) 3, 2, 5  
 7. 7, 13, 19 - Difference is 6 8. (iv)

Exercise 4.6

1. (i) 1, 3 (ii) 1, 2, 3, 4, 6, 8, 12, 24  
 (iii) 1, 2, 3, 4, 5, 6, 10, 15, 30 (iv) 1, 2, 4, 11, 22, 44  
 2. (i) 1, 2, 5, 10 (ii) 1 (iii) 1, 2, 4 (iv) 1, 2  
 3. (i) 9 (ii) 7 (iii) 36 (iv) 90  
 (v) 40 (vi) 20 (vii) 219 (viii) 37  
 4. (i) 288 (ii) 23 (iii) 10 (iv) 80  
 (v) 23 (vi) 254 (vii) 36 (viii) 8  
 (ix) 1 (x) 5 (xi) 26 (xii) 41

5. Do it yourself

- Exercise 4.7  
 1. 133 2. 27 3. 36 4. 60  
 5. 7 6. 5 7. 4290  
 8. 40 9. 52731, 52689 10. 12

Exercise 4.8

1. (i) 30, 60, 90 (ii) 120, 240, 360 (iii) 48, 96, 144  
 (iv) 120, 240, 360 (v) 60, 120, 180 (vi) 210, 420, 630  
 2. (i) 20 (ii) 60 (iii) 54 (iv) 110  
 (v) 252 (vi) 96 (vii) 140 (viii) 60  
 3. (i) 264 (ii) 168 (iii) 100 (iv) 312  
 (v) 144 (vi) 1,680 (vii) 45 (viii) 90  
 4. (i) 200 (ii) 72 (iii) 60 (iv) 144  
 (v) 2,880 (vi) 3,780 (vii) 2,040 (viii) 1,800  
 5. 72

Exercise 4.9

1. 99 2. 1,050 3. 729 4. 1,790  
 5. 7 minutes 12 seconds after 8 p.m. 6. 65 m  
 7. 12,240 cm 8. 1 kg 9. 4 p.m. 10. 723

Exercise 4.10

1. 1,560 2. 564 3. 64 4. Do it yourself  
 5. No 6. 576

Mental Maths-3

1. 2 2. No 3. 30 4. 1, 2, 3, 4, 6, 12  
 5. 20 6. 6 7. 9 8. False  
 9. 13, 59 10. 2, 2, 3 11. 11, 13, 17, 19, 23, 29  
 12. Yes 13. Their product 14. No 15. 77

Exercise 5.1

1. (i) Loss of ₹ 400 (ii) Adding 36  
 (iii) Going 15 km to the South (iv) Gaining a weight of 10 kg  
 (v) A withdrawal of ₹ 1200 (vi) A decrease of 21  
 (vii)  $100^\circ\text{C}$  below the freezing point of water  
 (viii) 20 km below sea level (ix) Dividing by 4  
 2. (i)  $-100^\circ\text{C}$  (ii) -4 m (iii) +₹ 250 (iv) +4 km  
 3. Do it yourself 4. Do it yourself  
 5. (i) 10 (ii) -1 (iii) -6 (iv) -5  
 6. (i) -12, -10, -9, 0, 4, 5, 17 (ii) -48, -25, -5, 0, 30, 48  
 7. (i) 18, 5, 4, 0, -1, -5, -27 (ii) 17, 12, 10, -3, -6, -8  
 8. (i) 7 (ii) 25 (iii) 30 (iv) -8  
 (v) 0 (vi) 6

9. (i) 8 (ii) 0 (iii) 3 (iv) -25  
 11. (i) T (ii) F (iii) T (iv) T  
 (v) T (vi) T (vii) F (viii) T  
 (ix) T

12. (i) 0, 3, 6 (ii) -35, -40, -45 (iii) -6, 0, 6  
 (iv) -7, -17, -27 (v) -38, -32, -26 (vi) -68, -66, -64  
 13. (i) 4 °C (ii) -7 °C (iii) 8 °C (iv) -1 °C  
 14. (i) b (ii) b (iii) a (iv) a  
 (v) d

### Exercise 5.2

1. Do it yourself  
 2. (i) -34 (ii) +2 (iii) -20 (iv) -145  
 (v) -132 (vi) -33  
 3. (i) Yes (ii) Yes, No  
 (iii) The sum of zero and any number is the number itself  
 (vi)  $(-4 + 4)$ ,  $(-3 + 3)$ ,  $(-2 + 2)$ ,  $(-1 + 1)$  and  $(0, 0)$   
 4. (i) -25 (ii) -7469 (iii) -397 (iv) 755  
 5. (i) -7 (ii) +40 (iii) -207 (iv) 318  
 6. (i) 14 (ii) -10 (iii) -2 (iv) -6  
 7. 10 km to the west of Delhi 8. -4, -3, -2, -1, 0, 1, 2, 3, 4  
 9. (i) -17, -19 (ii) 43, 41 (iii) -36, -38 (iv) -107, -109  
 (v) -1063, -1065  
 10. (i) -3 (ii) -12 (iii) 6 (iv) 8  
 (v) -10 (vi) 0  
 11. (i) < (ii) > (iii) > (iv) >  
 12. (i) -19 (ii) 1 (iii) 14 (iv) -925  
 13. Lost ₹ 40, -₹ 40

### Exercise 5.3

1. (i) -55 (ii) 25 (iii) -108 (iv) -324  
 (v) 47 (vi) -242 (vii) -193 (viii) 4829  
 (ix) -420  
 2. (i) 68 (ii) -4 (iii) +10 (iv) 10  
 (v) 456 (vi) -276  
 3. (i) 0 (ii) 4  
 4. (i) No (ii) (1, 1), (2, 2), (3, 3) (iii) Yes  
 5. -51 6. 104  
 7. (i) F (ii) T (iii) T (iv) F  
 (v) F (vi) F  
 8. -15 9. -48 10. 59 11. 2 °C  
 12. (i) 6 (ii) 30 (iii) 8 (iv) -12  
 (v) 0 (vi) 118  
 13. (i) temperature is -6 °C and drops by 3 °C  
 (ii) temperature is 6 °C and drops by 4 °C  
 (iii) temperature is -2 °C and increases by 7 °C  
 (iv) temperature is 4 °C and increases by 3 °C  
 (v) temperature is -1 °C and drops by 8 °C

### Mental Maths-4

1. 6 2. 16 3. 5  
 4. -4, -3, -2, -1, 0, 1 5. -8 6. -1

### Exercise 6.1

1. (i)  $\frac{3}{9}$  (ii)  $\frac{1}{4}$  (iii)  $\frac{3}{7}$  (iv)  $\frac{4}{6}$   
 2. (i)  $\frac{7}{10}$  (ii)  $\frac{3}{8}$  (iii)  $\frac{8}{15}$   
 3. Do it yourself  
 4. (i) and (iii) are correct (ii) incorrect, There is no equal parts.  
 5. (i)  $\frac{3}{5}$  (ii)  $\frac{7}{12}$  (iii)  $\frac{9}{15}$  (iv)  $\frac{17}{32}$   
 6.  $\frac{7}{12}$  7.  $\frac{40}{60}$  8.  $\frac{8}{24}$   
 9. (i) 4 (ii) 24 10.  $\frac{2}{3}$   
 11. (i)  $\frac{6}{13}$  (ii)  $\frac{1}{50}$  (iii)  $\frac{8}{19}$  (iv)  $\frac{7}{27}$   
 12. (i)  $4 \div 17$  (ii)  $9 \div 23$  (iii)  $15 \div 47$  (iv)  $25 \div 58$   
 13. 12

### Exercise 6.2

1.  $\frac{4}{9}, \frac{11}{9}, \frac{15}{9}, \frac{4}{9}$  2.  $\frac{1}{2}, \frac{1}{13}, \frac{1}{14}$  3.  $\frac{2}{1}, \frac{19}{12}, \frac{14}{3}, \frac{18}{13}, \frac{27}{19}$  4. Do it yourself  
 5. (i) 25 (ii) 16 (iii) 8 (iv) 39  
 6. (i) 4, 6, 8 (ii) 3, 33, 40  
 7. (i) No (ii) No (iii) Yes (iv) Yes  
 8. (i)  $\frac{11}{4}$  (ii)  $\frac{8}{7}$  (iii)  $\frac{1}{2}$  (iv)  $\frac{7}{9}$   
 9. (i)  $2\frac{1}{5}$  (ii)  $4\frac{1}{6}$  (iii)  $2\frac{1}{7}$  (iv)  $5\frac{1}{13}$

### Exercise 6.3

1. (i)  
 2. (i)  $\frac{5}{7}$  (ii)  $\frac{2}{9}$  (iii)  $\frac{1}{9}$  (iv)  $\frac{1}{4}$   
 (v)  $\frac{8}{9}$  (vi)  $\frac{6}{7}$  (vii)  $\frac{1}{9}$  (viii)  $\frac{1}{12}$   
 (ix)  $\frac{4}{5}$  (x)  $\frac{5}{9}$

### Exercise 6.4

1. (i) > (ii) > (iii) > (iv) <  
 (v) < (vi) < (vii) > (viii) >  
 2. (i)  $\frac{5}{18}, \frac{5}{14}, \frac{5}{12}, \frac{5}{8}, \frac{5}{6}$  (ii)  $\frac{9}{19}, \frac{7}{19}, \frac{10}{19}, \frac{14}{19}$  (iii)  $\frac{5}{13}, \frac{7}{12}, \frac{4}{9}, \frac{11}{16}$   
 (v)  $\frac{1}{2}, \frac{3}{5}, \frac{7}{10}, \frac{5}{6}$  (vi)  $\frac{3}{20}, \frac{3}{17}, \frac{3}{16}, \frac{3}{14}$  (vii)  $\frac{6}{25}, \frac{6}{25}, \frac{6}{25}, \frac{6}{25}$   
 3. (i)  $\frac{27}{45}, \frac{27}{48}, \frac{27}{60}, \frac{27}{63}, \frac{27}{66}$  (ii)  $\frac{7}{9}, \frac{5}{9}, \frac{2}{9}, \frac{1}{4}$  (iii)  $\frac{16}{28}, \frac{6}{11}, \frac{6}{11}, \frac{6}{11}$   
 (v)  $\frac{7}{9}, \frac{7}{10}, \frac{7}{12}, \frac{7}{15}$  (vi)  $\frac{4}{4}, \frac{9}{9}, \frac{9}{9}, \frac{7}{12}$   
 (vii)  $\frac{3}{4}, \frac{13}{24}, \frac{1}{9}, \frac{5}{100}$

### Exercise 6.5

1. (i)  $\frac{11}{16}$  (ii) 1 (iii)  $\frac{16}{9}$

- (iv)  $\frac{11}{17}$  (v)  $\frac{11}{13}$  (vi)  $\frac{2}{3}$
2. (i)  $7\frac{4}{15}$  (ii)  $1\frac{7}{102}$  (iii)  $\frac{17}{42}$  (iv)  $1\frac{5}{24}$
- (v)  $1\frac{5}{12}$  (vi) 1 (vii)  $1\frac{7}{30}$  (viii)  $6\frac{13}{24}$
- (ix)  $3\frac{17}{18}$
3. (i)  $7\frac{1}{20}$  (ii)  $7\frac{1}{2}$  (iii)  $15\frac{3}{8}$  (iv) 5
- (v)  $12\frac{17}{20}$  (vi)  $5\frac{5}{7}$
4.  $3\frac{7}{12}$  km 5.  $\frac{2}{3}$  l 6.  $\frac{2}{3}$  7.  $13\frac{1}{2}$  kg

**Exercise 6.6**

1. (i)  $\frac{1}{10}$  (ii)  $\frac{6}{25}$  (iii)  $-\frac{2}{7}$  (iv) 0
- (v)  $\frac{1}{60}$  (vi)  $\frac{1}{30}$  (vii)  $-\frac{1}{2}$  (viii)  $\frac{4}{75}$
2. (i)  $\frac{2}{45}$  (ii)  $\frac{5}{18}$  (iii)  $\frac{1}{3}$  (iv)  $\frac{1}{42}$
- (v)  $\frac{11}{56}$  (vi)  $\frac{13}{72}$
3. (i)  $\frac{7}{24}$  (ii)  $3\frac{1}{4}$  (iii)  $\frac{5}{6}$  (iv)  $8\frac{2}{5}$
- (v)  $3\frac{5}{9}$  (vi)  $7\frac{3}{8}$  (vii)  $4\frac{1}{4}$  (viii)  $20\frac{1}{36}$
- (ix)  $3\frac{13}{20}$  4.  $\frac{1}{3}$
5. (i)  $2\frac{11}{12}$  (ii)  $\frac{29}{30}$  (iii)  $\frac{1}{3}$  (iv)  $4\frac{3}{8}$  m
- (v)  $5\frac{13}{8}$  (vi) Nitin (vii)  $3\frac{1}{4}$

**Mental Maths-5**

1.  $\frac{7}{12}$  2.  $\frac{15}{32}$  3.  $4\frac{3}{9}$  4. (i)  $4\frac{1}{5}$  (ii)  $1\frac{7}{12}$
5. 12 fourths
6.  $\frac{1}{5}$  7. 8 m

**Exercise 7.1**

1. (i) 0.6 (ii) 0.9 (iii) 0.52 (iv) 0.073
- (v) 0.245
2. (i)  $\frac{1}{2}$  (ii)  $\frac{7}{100}$  (iii)  $\frac{39}{100}$  (iv)  $\frac{1}{125}$
- (v)  $\frac{7053}{1000}$  (vi)  $\frac{777}{250}$  (vii)  $\frac{38}{125}$  (viii)  $\frac{719}{1000}$

3. (i) 5 tenths (ii) 7 hundredths
- (iii) Three point zero one eight
- (iv) Eleven point six zero two
- (v) Three hundred four point five six
- (vi) Eighteen point nine two
- (vii) Five hundred three point nine
- (viii) Eight hundred seventeen point five zero three
4. (i) 0.05 (ii) 0.421 (iii) 50.8 (iv) 43.247
- (v) 300.234 (vi) 730.008 (vii) 71.241

5.

	H	T	O	.	T	h	th
(i)			0	.	5	8	
(ii)			6	.	1	4	
(iii)	3	6	0	.	4	8	
(iv)	2	2	1	.	5	0	4

6. (i)  $0 + \frac{8}{10} + 0 + \frac{3}{1000}$
- (ii)  $757.021 = 700 + 50 + 7 + \frac{2}{100} + \frac{1}{1000}$
- (iii)  $10 + 6 + \frac{4}{10} + 0 + \frac{1}{1000}$
- (iv)  $48.367 = 40 + 8 + \frac{3}{10} + \frac{6}{100} + \frac{7}{1000}$
- (v)  $864.148 = 800 + 60 + 4 + \frac{1}{10} + \frac{4}{100} + \frac{8}{1000}$
7. (i) 87.257 (ii) 225.803 (iii) 13.507
- (iv) 908.035 (v) 9.003 (vi) 90.303

**Exercise 7.2**

1. (i) 9.30, 103.57 (ii) 8.90, 5.05
- (iii) 0.600, 1.674 (iv) 53.001, 4.170, 4.900
- (v) 205.020, 99.674, 28.600 (vi) 0.500, 6.300, 10.814
2. (i) < (ii) > (iii) < (iv) >
- (v) > (vi) < (vii) > (viii) >
3. (i)  $6.05 < 6.4 < 6.45 < 6.5 < 6.54$
- (ii) 3.39, 8.36, 9.08, 15.2
- (iii) 0.92, 2.6, 3.35, 11.2 (iv)  $5.06 < 5.8 < 5.89 < 7.14 < 7.2$
4. (i) 114.53, 70.439, 43.543, 8.9
- (ii) 4.047, 4.04, 0.4, 0.24
- (iii)  $73.03 > 8.73 > 8.073 > 7.33 > 7.3$
- (iv) 13.5, 12.008, 10.77, 8.84

**Exercise 7.3**

1. (i) 0.5 (ii) 0.2 (iii) 0.6 (iv) 5.1875
- (v) 2.5 (vi) 0.24 (vii) 3.75 (viii) 6.375
2. (i) 4.25 (ii) 0.625 (iii) 12.05 (iv) 2.25
- (v) 3.5 (vi) 3.32 (vii) 2.055 (viii) 1.475

**Exercise 7.4**

1. (i) ₹ 0.85 (ii) ₹ 0.08 (iii) ₹ 11.25 (iv) ₹ 52.75
- (v) ₹ 616.09
2. (i) 0.9 cm (ii) 5.4 cm (iii) 24.6 cm
3. (i) 1.45 m (ii) 12.15 m (iii) 6.1 m (iv) 243.85 m
- (v) 40.09 m

4. (i) 0.415 km (ii) 0.056 km (iii) 1.005 km  
 (iv) 2.009 km (v) 50.070 km (vi) 28.008 km  
 5. (i) 0.049 kg (ii) 0.006 kg (iii) 0.433 kg  
 (iv) 53.049 kg (v) 10.256 kg (vi) 607.005 kg  
 6. (i) 0.08 l (ii) 0.925 l (iii) 0.037 l  
 (iv) 6.750 l (v) 16.006 l (vi) 336.098 l  
 7. (i) 3,525 P (ii) 85 P (iii) 62 cm  
 (iv) 123 mm (v) 73,040 m (vi) 75 g  
 (vii) 7 ml (viii) 36,800 g

#### Exercise 7.5

1. (i) 0.73 (ii) 1.3 (iii) 2.765  
 (iv) 31.271 (v) 174.3558 (vi) 34.79  
 (vii) 8.16 (viii) 973.761  
 2. (i) 106.78 (ii) 7.38 (iii) 639.282  
 (iv) 9.966 (v) 31.068 (vi) 59.007  
 (vii) 142.617 (viii) 214.532 (ix) 258.146  
 3. 12 kg 150 g 4. 482.225 kg 5. ₹ 117  
 6. ₹ 52,001.20

#### Exercise 6.6

1. (i) 1.28 (ii) 0.23 (iii) 30.77  
 (iv) 121.97 (v) 235.680 (vi) 597.514  
 2. (i) 4.565 (ii) 3.324 (iii) 56.82  
 (iv) 25.974 (v) 401.254 (vi) 13.044  
 3. 13,063.13 4. 250.18 l 5. 23.12  
 6. 1.6°C

#### Mental Maths-6

1. 7.8 2. 0.679 3.  $\frac{8}{1000}$  4. 2.06  
 5. (i) True (ii) False (iii) False (iv) False  
 (v) False (vi) True (vii) False (viii) False

#### Exercise 8.1

1. (i)  $x + \frac{2}{3}y - a$  (ii)  $2a + \frac{1}{4}3b$  (iii)  $4a - \frac{1}{4}b$   
 (iv)  $x + 3$  (v)  $\frac{x}{y} + 2$   
 (vi)  $z - (x + y)$  (vii)  $(x + 8) + y$   
 (viii)  $ab + \frac{a}{b}$

2. (i) S.P. = C.P. + P (ii) A = P + I  
 (iii) P = 2(l + b) (iv) A = l × b  
 3. ₹ (15x + 10y) 4. ₹ 12(x + y) 5. (80x + 90y)g

6.  $\frac{3x}{4} + 15$  7. (2x + 4) - y

8.  $2(x + 4) - \frac{3}{4}b$  9. b = a + 196 10.  $y = \frac{x}{4}$   
 11. (6x + 50) km 12. 2x - 12

#### Exercise 8.2

1. (i) 3x, 4y, -2z, xyz (ii) 2a, 5b, -ab, 7 (iii) x, 2y, - $\frac{4}{7}$   
 (iv)  $\frac{1}{2}b$ , 3y (v) a, 3

2. (i) 2x + y (ii) 4x + 9y - 3  
 (iii) 8 - ab + 2b (iv) 2p + 3q - 8r +  $\frac{2}{9}$   
 (v)  $3m - \frac{4}{3}n - \frac{1}{2}$  (vi)  $4x - \frac{1}{3}y + \frac{5}{7}z - \frac{3}{8}$   
 3. (i) 1 (ii)  $\frac{3}{5}$  (iii) -3 (iv)  $\frac{1}{8}$   
 4. (i) 3 (ii) 9 (iii)  $\frac{4}{3}$  or  $1\frac{1}{3}$  (iv) 6  
 5. (i) 21 (ii) 9 (iii) 16 7. 12 l  
 8. (i) (x + 10) years (ii) (x - 5) years (iii) (2x + 5) years  
 9. Do it yourself  
 10. (i) 7y (ii) x + y = 2 (iii) x<sup>2</sup> + 2x - 6 (iv) a - 10  
 (v) x - 8

#### Mental Maths-7

1. 5x 2.  $\frac{x}{y} - 3$  3. a + (b + 5)  
 4. 4x km 5. 12

#### Exercise 9.1

1. (i) 3 : 4 (ii) 3 : 11 (iii) 2 : 9  
 (iv) 20 : 11 (v) 1 : 500 (vi) 1 : 4  
 2. (i) 3 : 7, 6 : 14, 12 : 28 (ii) 4 : 5, 8 : 10, 12 : 15  
 (iii) 2 : 7, 28 : 98, 42 : 147  
 3. (i) 4 : 9 (ii) 3 : 5 (iii) 1 : 10 (iv) 3 : 25  
 (v) 1 : 4 (vi) 1 : 3 4. 17 : 550  
 5. (i) 3 : 2 (ii) 2 : 3 (iii) 3 : 5  
 6. (i) Neha - 21 pencils, Amit - 14 pencils  
 (ii) 1 kg 200 g and 4 kg 200 g  
 (iii) ₹ 80 and ₹ 100 7. 4 : 3  
 8. (i) 18 : 25 (ii) 7 : 25 (iii) 7 : 18 9. Vinod  
 10. (i) 30 : 40 (ii) 15 : 35 (iii) 18 : 12  
 11. 168 and 210 12. Another school (7 : 10)

#### Exercise 9.2

1. (ii) and (iv) are in proportion rest of them are not.  
 2. (i) F (ii) T (iii) F  
 (iv) T (v) F (vi) T  
 3. 36 4. 72 5. 12.6 kg 6. 9  
 7. 95 8. 9 9. 225 10. 10  
 11. ₹ 3000 12. 12.6 kg

#### Exercise 9.3

1. ₹ 90 2. ₹ 240 3. 6  
 4. (i) ₹ 128.80 (ii) 9 kg  
 5. 50 kg 6. ₹ 128 7. 8 kg for ₹ 192 8. 63 kg  
 9. 2730 ml or 2 l 730 ml 10. 1250 metres  
 11. 60 12. 1 day 13. ₹ 1476  
 14. 80 litres

#### Mental Maths-8

1. (i) 3 : 8 (ii) 1 : 3 2. 7  
 3. 32 and 28 4. 5 : 12 > 3 : 8  
 5. ₹ 740 6. True 7. ₹ 27 and ₹ 63  
 8. (i) Point (ii) line (iii) Line segment

#### Exercise 10.1

1. (i) Point (ii) line (iii) Line segment

- (iv) Ray (v) Plane (vi) Intersecting  
 (vii) Parallel
2. (i) AY (ii) A, O, X, Y, Z (iii) OX, OY, OZ, OA  
 (iv) AO, OX, OY, OZ, AY 3. Do it yourself
4. (i) No (ii) Yes (iii) Crossing roads etc.
5. Infinite 6. None
7. (i) One 8. Yes
9. (i) (PQ, MN), (MN, XY), (PQ, XY)  
 (ii) (PQ, AC), (MN, AC) (XY, AC)
10. Railway track, racing track and queue of the students assembly
11. (i) a (ii) a (iii) d (iv) c

**Exercise 10.2**

1. Closed - (ii), (iii), (viii) Open - (i), (iv), (v), (vi), (vii)
2. (ii), (v), (vii) 3. Do it yourself
4. (i) X, Y, Z (ii) P, Q, T, M (iii) A, B, C, D, E, F, K
5. Sides Vertices diagonals  
 (i) AB, BC, CD, DA A, B, C, D No  
 (ii) AS, SP, PQ, QA A, S, P, Q AP, SQ  
 (iii) AB, BC, CD, DE A, B, C, D No  
 EF, FG, GH, HA E, F, G, H  
 (iv) MN, NP, PM M, N, P No
6. (i) c (ii) b (iii) (b)

**Exercise 10.3**

1. (i)  $\angle AOB, \angle BOA, \angle 1, \angle O$  (ii)  $\angle LMN, \angle NML, \angle x, \angle M$   
 (iii)  $\angle DEF, \angle FED, \angle 4, \angle E$
2. (ii) None (iii) OM, ON (iii) none (iv) ON, OM  
 (v)  $\angle MON, \angle NOM$
3. (i)  $\angle KLM, \angle MLK$ ; vertex L; sides KL and LM  
 (ii)  $\angle PQR, \angle RQP$ ; vertex Q; sides PQ and QR  
 (iii)  $\angle DOB, \angle BOD$ ; vertex O; sides DO and BO  
 (iv)  $\angle DAE, \angle EAD$ ; vertex A; sides DA and EA
4. No, they will form an angle only on intersecting
5. (i) S, K (ii) X, Y (iii) A, B, C, O, R
6. True 7. (i) D, E, P, G (ii) M, L, G, I, Z, K (iii) X, J, Y, I, Z
- (iv) Z, I, D, E, P 8. Do it yourself

**Exercise 11.1**

1. Do it yourself 2. (i) =, (ii) <, (iii) <, (iv) <, (v) >
3. (i) 6 cm (ii) 7 cm (iii) 8 cm
4. 5. Yes 6. Do it yourself Q 7 to 11 try yourself

**Exercise 11.2**

1. (i) Right angle (ii) Right angle (iii) Right angle  
 (iv) Obtuse angle
2. East 3. East
4. (i)  $\frac{1}{3}$  (ii)  $\frac{5}{12}$  (iii)  $\frac{7}{12}$  (iv)  $\frac{7}{12}$
5.  $180^\circ$  6. (i) One (ii) One
7. (i) at 9 (ii) at 4 (iii) at 9
8. South-West 9. 10 right angles

11. Acute angles -  $60^\circ, 45^\circ, 80^\circ, 78^\circ$   
 Obtuse angles -  $135^\circ, 170^\circ, 105^\circ, 125^\circ$   
 Right angles  $90^\circ$  Straight angle -  $180^\circ$   
 Reflex angles -  $230^\circ, 290^\circ$

12. (i) True (ii) False (iii) True (iv) False
13. (i) Straight angle (ii) Right angle (iii) Obtuse angle  
 (iv) Reflex angle (v) Acute angle (vi) Complete angle  
 (vii) Reflex angle (viii) Right angle
14. (i) 1 (ii) 1 (iii) 2 (iv) 2  
 (v) 2 (vi) 1
15. (i)  $\angle ROS$  (ii)  $\angle LOM$  (iii)  $\angle LMN$
16. (i) West (ii) North (iii) North (iv) North  
 (v) West (vi) South
17. (i)  $\frac{3}{4}$  th of a revolution (ii)  $\frac{3}{4}$  th of a revolution  
 (iii) half a revolution (iv)  $\frac{1}{4}$  th of a revolution
18. (i) b (ii) d (iii) c (iv) b  
 (v) b

**Exercise 11.3**

1. to 5 Do it yourself
6. (i) (a) No (b) Yes (c) No  
 (ii) DE, CF and BG (iii) Yes 7.  $90^\circ$
8. (i)  $360^\circ$  (ii)  $90^\circ$  (iii)  $270^\circ$  (iv)  $360^\circ$   
 (v)  $360^\circ$  (vi)  $90^\circ$
9.  $90^\circ$  10. Do yourself 11. Do it yourself.

**Exercise 11.4**

1. (i) Equilateral (ii) Scalene (iii) Scalene (vi) Isosceles  
 (v) Equilateral (iv) Isosceles  
 (vii) Isosceles (viii) Scalene
2. (i) Right-angled (ii) Acute-angled  
 (iii) Acute-angled (iv) Obtuse-angled  
 (v) Obtuse-angled (v) Acute-angled
3. (i) No (ii) Yes (iii) Yes (iv) No
4. (i) False (ii) False (iii) True  
 (iv) True (v) False
5. (i) Right-angled (ii) Obtuse-angled (iii) Acute-angled  
 (iv) Acute-angled (v) Acute-angled (vi) Obtuse-angled
6. Equilateral triangle
7. (i) No (ii) 3 (iii) 2
8.  $30^\circ, 60^\circ, 90^\circ$  9.  $35^\circ$  each
10. (i) a (ii) d (iii) b (iv) a  
 (v) c

**Exercise 11.5**













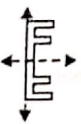
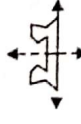
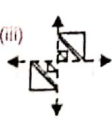
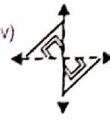
1. (i) parallel (ii) rhombus (iii) four (iv) two  
 (v) right
2. (i) rectangle (ii) rhombus (iii) kite  
 (iv) isosceles trapezium  
 (v) False (vi) True (vii) True (viii) False

4. (i) Trapezium (ii) Squares, Rectangle, Rhombus  
 (iii) Square, Rhombus (iv) Trapezium  
 (v) Parallelogram, Rhombus, Square, Rectangle  
 (vi) Rectangle, Square (vii) Rhombus, Square, Rectangle  
 (viii) Square, Rectangle, Rhombus (ix) Rhombus, Square, Rectangle
5. (i) Square (ii) Rectangle

**Exercise 11.6**

1. (ii), (iii), (iv) and (vi)  
 2.  $128^\circ$  3. (i)  $120^\circ$  (ii)  $144^\circ$   
 4. 10 5. 12

**Exercise 12.1**


1. (i)  (ii)  (iii)  (iv) 
2. (i)  (ii)  (iii)  (iv) 
3. (i) 2 (ii) 2 (iii) 1  
 (iv) 6 (v) 2 (vi) 4
4. (i)  (ii)  (iii)  (iv) 
5. (i)  (ii)  (iii)  (iv) 
6. (i) Hexagon (ii) 2 (iii) No (iv) Zero

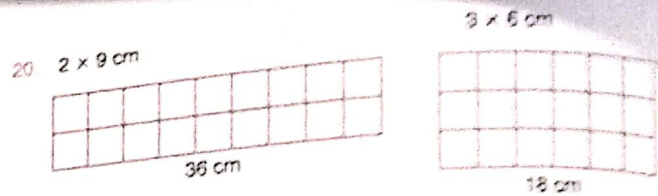
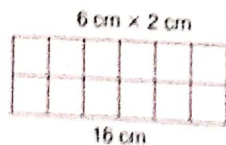
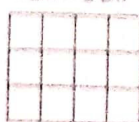
**Exercise 14.1**

1. (i) 118 cm (ii) 32 cm (iii) 57 cm  
 (iv) 31 m

l (in cm)	5	6	7	8	5	9
b (in cm)	4	4	6	6	3	6
p (in cm)	18	20	26	28	16	30

Side of square (in cm)	4	10	12	24	30	35	60
Perimeter (in cm)	16	40	48	96	120	140	240

4. 24 m 5. 7.5 m  
 6. 32 cm 7. 24 cm  
 8. 1.04 km 9. ₹ 28,000 10. ₹ 20,000  
 11. 2.25 m, 1.8 m 12. 320 m  
 13. (i) 10 cm (ii) 5 cm 14. Suman  
 15. 42 cm 16. Ajay  
 17. (i) 7.5 cm (ii) 8 cm (iii) 15 cm 18. 



**Exercise 14.2**

1. (i) 42 (ii) 9 (iii) 5  
 2. (i) 13.6 cm,  $11.56 \text{ cm}^2$  (ii) 24 cm,  $36 \text{ cm}^2$   
 (iii) 36 cm,  $81 \text{ cm}^2$  (iv) 5 cm,  $25 \text{ cm}^2$   
 3. (i) 30 m (ii) 60 m 4. 36.5 cm 5. 60 cm  
 6. 101 sqm 7. Do it yourself 8. 4 cm 9.  $23.718 \text{ m}^2$   
 10. ₹ 2,052 11. 10,000  
 12. (a) 84 sq unit (b) 50 sq unit (c) 40 sq unit (d) 64 sq unit  
 (e) 50 sq unit (f) 43 sq unit  
 13. 24,000 14. (i)  $93 \text{ cm}^2$  (ii)  $50 \text{ m}^2$  (iii)  $80 \text{ cm}^2$  (iv)  $50 \text{ cm}^2$   
 15. Greatest are  $\rightarrow$  (iii), smallest are  $\rightarrow$  (i)  
 16. ₹ 6,300 17.  $330 \text{ m}^2$   
 18. Rectangle I =  $6 \text{ cm}^2$ , Rectangle II =  $60 \text{ cm}^2$ , Rectangle III =  $18 \text{ cm}^2$ ,  
 Rectangle IV =  $4 \text{ cm}^2$

**Mental Maths-9**

1. (i) True (ii) False (iii) True (iv) False (v) True  
 2. ₹ 1,056 3. 92 cm 4. 40 m 5. 20 cm  
 6. Area becomes  $\frac{1}{4}$  of the original area. 7. ₹ 4,200

**Exercise 15.1**

1. Refer to text 2. Refer to text

Heights of students (in cm)	Tally marks	Frequency
134	II	2
135	IIII	5
136	IIII	4
138	II	2
139	III	3
140	IIII I	6
141	II	2
155	III	3
162	III	3

4. (i) Do it yourself (ii) 11 (iii) 3, 4 & 13  
 5. (i) 6 (ii) 4 (iii) 5



# ANSWERS

## Exercise 2.1

- P to W : -8, -7, -6, -5, -4, -3, -2, -1  
A to G : 7, 6, 5, 4, 3, 2, 1
- 97, -85, -40, 55, 63
- (i) Depth of 500 m  
(ii) 125 m east  
(iii) 110m below sea level  
(iv) Increase in temperature
- 87 → -87, -87 → 87; -198 → 198; 198 → -198; 200 → -200
- 105, -108, -204, -301
- (i) -5, -10, -15 (ii) -10, -12, -14 (iii) -36, -42, -48

## Exercise 2.2

- (i) integer itself (ii) 14  
(iii) zero (iv) additive inverse (v) negative
- (i) -14 (ii) 11 (iii) -14 (iv) -48
- (v) -28 (vi) -11
- (i) -6,290 (ii) -63 (iii) 295 (iv) -1,945
- (i) -8 (ii) 36 (iii) -203 (iv) 415
- 8, -7, -6, -5, -4, -3, -2, -1, 0, 1, 2, 3, 4, 5, 6, 7, 8
- (i) -15 (ii) 41 (iii) -60 (iv) 57
- (v) -22 (vi) -86
- (i) -8 (ii) -13 (iii) 12 (iv) 83
- (v) 258 (vi) 216
- 13 9. 4 10. -10
- (i) 0 (ii) 3 12. Do yourself
- (i) -9 (ii) 3 (iii) -13
- (i) -70 (ii) -90 (iii) -41
- (i) -5 (ii) Right side, 9 steps (iii) -6  
(iv) Left side, 5 steps
- 69 17. -113 18. 1,785 km 19. 16,500 m
- (i) T (ii) F (iii) F (iv) F
- (v) T (vi) T 21. 50
- ₹ 8,250 23. Do it yourself
- (i) -7, -4 (ii) 18 (iii) 0 (iv) -15, 0
- (v) -4, 12 25. Do yourself 26. Do yourself
- (i) c (ii) b (iii) a (iv) d

## Exercise 2.3

- (i) 0 (ii) -12 (iii) -9 (iv) -161  
(v) -875 (vi) -144 (vii) +150 (viii) -385
- (i)  $(9 + 7) \times 10$  (ii)  $(3 - 8) \times 16$   
(iii)  $[(-1) - 7] \times (-6)$  3. Do it yourself
- |    |     |     |     |    |    |     |     |
|----|-----|-----|-----|----|----|-----|-----|
| x  | 8   | 4   | 2   | 1  | -1 | -3  | -5  |
| 9  | 72  | 36  | 18  | 9  | -9 | -27 | -45 |
| 5  | 40  | 20  | 10  | 5  | -5 | -15 | -25 |
| 1  | 8   | 4   | 2   | 1  | -1 | -3  | -5  |
| 0  | 0   | 0   | 0   | 0  | 0  | 0   | 0   |
| -2 | -16 | -8  | -4  | -2 | 2  | 6   | 10  |
| -4 | -32 | -16 | -8  | -4 | 4  | 12  | 20  |
| -8 | -64 | -32 | -16 | -8 | 8  | 24  | 40  |
- (i) 30 (ii) -280 (iii) 96 (iv) 2,400  
(v) 0 (vi) -105 (vii) 1944 (viii) 384
- 51 7. No
- (i) 494 (ii) 1,800 (iii) -293 (iv) -10,350  
(v) -170 (vi) -640
- (i) negative (-) (ii) positive (+)
- (i) positive (ii) negative (iii) positive (iv) negative
- (v) negative 12. -15 and 4 13. (i) Loss: ₹ 29 (ii) 16 kg
- (i) (f), (ii) → (c), (iii) → (b), (iv) → (e),  
(v) → (d), (vi) → (a) 15. ₹ 2,400 16. (i) b  
(ii) a (iii) b (iv) c (v) a

## Exercise 2.4

- (i) -1 (ii) 1 (iii) 3 (iv) -24  
(v) -19 (vi) -1
- (i) F (ii) F (iii) F (iv) T
- (i) 0 (ii) -32 (iii) -81 (iv) -1  
(v) -1 (vi) -125
- (-11, 5), (-12, 6), (-13, 7), (-20, 14), (-25, 19)

- (i) 24 (ii) 33 6. -5
- 37 minutes 30 seconds 8. 74 m depth
- 2 minutes 8 seconds 10. 11 hours 11. 42 m
- 1am, -26°C 13. (i) d (ii) d (iii) c

## Mental Maths-1

- 14 2. 25 feet 3. 35; 35, -35
- positive (+) 6. 0 7. +13°C 8. -32

## Exercise 3.1

- like fractions: (ii), (iii); unlike fractions: (i), (iv)
- improper fractions: (1), (ii), (viii); proper fraction: (iv);  
mixed fractions: (iii), (v), (vi), (vii)
- Any three equivalent fraction to be written for all the parts.
- (i)  $\frac{36}{96}$  (ii)  $\frac{25}{35}$  (iii)  $\frac{63}{77}$  (iv)  $\frac{4}{5}$   
(v)  $\frac{10}{15}$  (vi)  $\frac{5}{19}$
- (i)  $\frac{78}{7}$  (ii)  $\frac{26}{5}$  (iii)  $\frac{54}{7}$  (iv)  $\frac{151}{9}$   
(iii)  $5\frac{2}{5}$  (iv)  $10\frac{4}{13}$
- (i)  $2\frac{16}{19}$  (ii)  $24\frac{2}{5}$   
(ii)  $\frac{6}{11} < \frac{6}{8} < \frac{6}{7} < \frac{6}{5}$   
(iii)  $\frac{1}{10} < \frac{2}{5} < \frac{5}{8} < \frac{3}{4}$   
(ii)  $\frac{3}{10} < \frac{2}{5} < \frac{16}{35} < \frac{9}{14}$   
(iv)  $\frac{3}{10} < \frac{9}{25} < \frac{7}{15} < \frac{4}{5}$   
(ii)  $\frac{5}{6} > \frac{3}{4} > \frac{1}{2} > \frac{1}{8}$   
(iv)  $\frac{17}{9} > \frac{15}{9} > \frac{8}{9} > \frac{2}{9}$   
(iii)  $\frac{1}{3} > \frac{1}{4} > \frac{1}{6} > \frac{1}{10}$
- (i)  $\frac{3}{4}$  (ii)  $\frac{7}{5}$  (iii)  $\frac{7}{6}$  (iv) 1  
(v)  $\frac{3}{5}$  (vi)  $2\frac{5}{17}$  (vii)  $\frac{4}{5}$
- (i)  $1\frac{29}{42}$  (ii)  $5\frac{5}{7}$  (iii)  $4\frac{67}{72}$  (iv)  $1\frac{11}{12}$   
(v)  $4\frac{31}{48}$  (vi)  $9\frac{19}{24}$  (vii)  $14\frac{23}{24}$  (viii)  $10\frac{149}{168}$
- (i)  $\frac{1}{12}$  (ii)  $\frac{3}{7}$  (iii)  $\frac{1}{3}$  (iv)  $3\frac{181}{200}$   
(v)  $\frac{1}{8}$  (vi)  $8\frac{29}{63}$  (vii)  $\frac{1}{2}$  (viii)  $\frac{53}{60}$
- (i)  $20\frac{7}{60}$  m (ii)  $9\frac{79}{120}$  cm (iii)  $32\frac{59}{60}$  cm
- $79\frac{1}{6}$  m 14.  $6\frac{1}{4}$  hours 15.  $\frac{4}{7}$
- (i)  $6\frac{1}{6}$  m (ii)  $19\frac{5}{6}$  m
- (i) c (ii) d (iii) d (iv) b

## Exercise 3.2

- (i)  $2\frac{1}{2}$  (ii)  $27\frac{1}{5}$  (iii) 50 (iv)  $12\frac{1}{2}$   
(v)  $2\frac{1}{3}$  (vi) 4
- (i) 24 (ii)  $\frac{2}{7}$  (iii) 25 (iv)  $\frac{4}{9}$   
(v) 7 (vi)  $\frac{2}{5}$
- (i)  $\frac{3}{2}$  or  $1\frac{1}{2}$  (ii)  $\frac{1}{10}$  (iii) 1 (iv)  $\frac{55}{21}$  or  $2\frac{13}{21}$   
(v)  $\frac{1}{2}$  (vi)  $11\frac{19}{21}$
- Son ₹ 30,00,000, daughter ₹ 18,00,000, grand daughter ₹ 42,00,000
- 26 6.  $10\frac{9}{16}$  7.  $28\frac{3}{4}$  sq m 8. ₹ 19 9.  $47\frac{13}{16}$  km

10. 880 km  
 11. ₹ 110  
 12. 100 pages  
 13. ₹ 8892  
 14.  $21\frac{7}{9}$   
 15. ₹ 8,400  
 16. 240  
 17. 33 cm  
 18. 78  
 19. ₹ 1,705  
 20. (i) b  
 (ii) b

**Exercise 3.3**

1. (i)  $\frac{19}{8}$  (ii)  $\frac{5}{4}$  (iii)  $\frac{4}{13}$   
 2. (i)  $\frac{1}{4}$  (ii)  $\frac{11}{14}$  (iii)  $\frac{24}{10}$   
 3. (i)  $1\frac{1}{6}$  (ii)  $\frac{4}{7}$  (iii)  $\frac{1}{10}$  (iv) 1  
 (v)  $\frac{5}{8}$  (vi)  $2\frac{3}{4}$   
 4. (i) 51 (ii)  $2\frac{1}{42}$  (iii)  $4\frac{4}{9}$  (iv)  $1\frac{49}{65}$   
 5.  $\frac{5}{7}$  6.  $12\frac{4}{5}$  km 7. 20 mugs 8.  $\frac{3}{7}$  m  
 9. 10 chocolatea 10. ₹  $1\frac{1}{2}$  11. 12m  
 12. 110 boys 13. 6 m 14. ₹ 05  
 15. (i) (a) (ii) (c) (iii) (d)

**Mental Maths - 2**

1.  $\frac{7}{18}$  2. yea 3.  $1\frac{4}{5}$  litres 4. No  
 5.  $\frac{5}{48}, \frac{7}{12}$  6.  $\frac{7}{5}$  7.  $\frac{20}{1}$  8. 10

**Exercise 4.1**

1. (i) T (ii) T (iii) F (iv) F  
 (v) F (vi) T  
 2. (i) Whole number part: 212, Decimal part : 314  
 (ii) Whole number part: 500, Decimal part : 025  
 (iii) Whole number part: 130, Decimal part : 057  
 (iv) Whole number part: 1, Decimal part : 0  
 (v) Whole number part: 8, Decimal part : 217  
 (vi) Whole number part: 0, Decimal part : 07  
 3. (i) Three hundred forty-eight point eight seven one  
 (ii) Eight point two five  
 (iii) Zero point four zero nine  
 (iv) Four point zero zero eight  
 (v) Four hundred forty point zero zero five  
 (vi) Fifteen point three three three  
 4. (i) 3356.7 (ii) 89.14 (iii) 30.344  
 (iv) 79.006 (v) 0.890  
 5. (i) 03.51, 73.81, 83.01, 635.1 (ii) 7.0001, 70.001, 700.1, 7001.0  
 (iii) 38.63, 42.62, 43.61, 43.67 (iv) 83.25, 823.5, 832.5, 852.5  
 (v) 703.01, 750.01, 725.1, 7.5001  
 6. (i) 72.37, 72.35, 72.30, 70.32 (ii) 5800.1, 580.01, 58.001, 5.8001  
 (iii) 63.01, 60.05, 6.325, 0.63 (iv) 2.08 (v) 4.32  
 7. (i) 4.7 (ii) 0.75 (iii) 13.2  
 (v) 3.29 (vi) 6.44 (vii) 6.5 (viii) 4.32  
 (iii)  $\frac{39}{200}$  (iv)  $7\frac{9}{25}$   
 8. (i)  $\frac{3}{5}$  (ii)  $\frac{41}{20}$  (iii)  $\frac{9}{40}$  (viii)  $79\frac{1}{500}$   
 (v)  $10\frac{201}{1000}$  (vi)  $32\frac{1}{20}$  (vii)  $\frac{9}{40}$  (iv) 260.34  
 9. (i) 89.23 (ii) 23.81 (iii) 41.05 (iv) 260.34  
 (v) 30.501 (vi) 53.15 (vii) 11.84 (viii) 632.054  
 10. (i) 0.004 (ii) 336.737 (iii) 11.84 (viii) 46.21  
 (v) 3.595 (vi) 51.97 (vii) 60.092

**Exercise 4.2**

1. (i) 0.6 (ii) 107.1 (iii) 34.06 (iv) 16.5  
 (v) 40.64 (vi) 24.748 (vii) 8.6344 (viii) 0.129  
 2. (i) 87 (ii) 362.15 (iii) 34.16 (iv) 3,101.3  
 (v) 2.5 (vi) 3,870 (vii) 8,932 (viii) 7,063  
 3. (i) 12.6 (ii) 16.74 (iii) 11,999 (iv) 25.5021  
 (v) 409,448 (vi) 21.828 (vii) 3,173,8135 (viii) 8.30471  
 4. ₹ 1368 5. 58,599 feet 6. 3.3 kg  
 7. ₹ 1,66,042.50 or ₹ 1,66,000 app. 8. ₹ 3,731.25

9. (i) 1.035 (ii) 225.14 (iii) 20,200.5 (iv) 0  
 (v) any number (vi) 1 (vii) 100  
 10. ₹ 295.80 11. 40,644 12. 8 litres 13. 38.7 m  
 14. 42 cm

**Exercise 4.3**

1. (i) 3.5 (ii) 2.5 (iii) 23.0 (iv) 62.0  
 (v) 0.025 (vi) 4.67 (vii) 50 (viii) 500  
 2. (i) 40 (ii) 164 (iii) 50 (iv) 500  
 (v) 0.8 (vi) 200  
 3. (i) 0.68 (ii) 0.161 (iii) 4.585 (iv) 0.32763  
 (v) 2.0674 (vi) 0.0001 (vii) 0.006003 (viii) 0.000001  
 4. (i) 2.4 (ii) 0.5 (iii) 1.12 (iv) 0.48  
 (v) 2.05 (vi) 0.164 (vii) 0.024  
 5. (i) 136.67 (ii) 44.34 (iii) 0.258 (iv) 8.5968  
 (v) 126  
 6. ₹ 60.33 7. 6.25 litres 8. ₹ 56.53 9. 24.6 km  
 10. ₹ 6.8  
 11. (i) (c) (ii) (c) (iii) (a) (iv) b

**Mental Maths - 3**

1. 1.21 mm 2. (i) 0.1458 (ii) 0.1458 3. 0.0001  
 4. 10 dm, 5 mm 5. like 6. 25.05

**Exercise 5.1**

1. (i) 2 (ii) -4 (iii) 0 (iv) -60  
 2. (i), (ii) and (iii) (iii) -75 (iv) -15  
 3. (i) 1 (ii) 13 (iii)  $\frac{32}{1}$  (iv)  $\frac{-306}{1}$   
 4. (i)  $\frac{5}{1}$  (ii)  $\frac{-6}{1}$  (iii)  $\frac{32}{1}$  (iv)  $\frac{-306}{1}$   
 5. (i) -1 (ii) 5 (iii) -2 (iv) 7

6. Positive rational numbers:  $\frac{4}{1}, \frac{-27}{36}$   
 Negative rational numbers:  $\frac{-3}{7}, \frac{5}{-13}, \frac{57}{-34}, \frac{76}{-101}, \frac{-12}{160}$   
 7. (i) No, because division by zero is not defined.  
 8.  $\frac{1000}{99999}$  9. Positive rational number:  $\frac{13}{18}, \frac{-12}{-15}, \frac{-29}{-231}$   
 Negative rational number:  $\frac{-6}{7}, \frac{-26}{53}, \frac{85}{-117}$

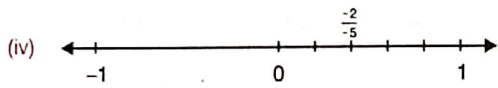
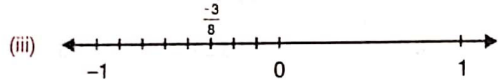
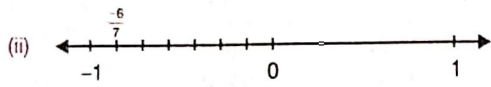
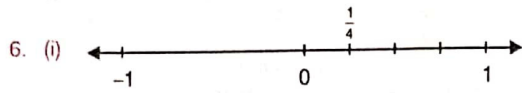
**Exercise 5.2**

1. (i)  $\frac{-36}{48}$  (ii)  $\frac{-64}{72}$  (iii)  $\frac{-90}{120}$  (iv)  $\frac{144}{-192}$   
 2. (i)  $\frac{25}{70}$  (ii)  $\frac{-35}{-98}$  (iii)  $\frac{-30}{-84}$  (iv)  $\frac{45}{126}$   
 3. (i)  $\frac{11}{-19}$  (ii)  $\frac{6}{-1}$  (iii)  $\frac{-23}{-11}$  (iv)  $\frac{11}{-22}$   
 4. (i) -22, -35, -88 (ii) 6, 12, 20  
 5. (i)  $\frac{2}{7}$  (ii)  $\frac{-5}{11}$  (iii)  $\frac{-15}{1}$  (iv)  $\frac{-13}{25}$   
 6. (i) 33 (ii) 15 (iii) -3 (iv) 24  
 7. (i)  $\frac{-64}{-144}$  (ii)  $\frac{327}{872}$  (iii)  $\frac{-360}{-960}$  (iv)  $\frac{450}{1200}$   
 8. (i)  $\frac{15}{18}$  and  $\frac{7}{18}$  (ii)  $\frac{16}{40}, \frac{38}{40}, \frac{42}{40}, \frac{35}{40}$  (iii)  $\frac{9}{24}, \frac{2}{24}, \frac{15}{24}, \frac{21}{24}$   
 9. (i)  $\frac{-15}{-21}$  (ii)  $\frac{40}{56}$  (iii)  $\frac{120}{168}$  (iv)  $\frac{1040}{1456}$   
 10. (i)  $\frac{-5}{15}, \frac{-0}{18}, \frac{-7}{21}, \frac{-8}{24}$  (ii)  $\frac{25}{-20}, \frac{30}{-24}, \frac{35}{-28}, \frac{40}{-32}$  (iii)  $\frac{-35}{25}, \frac{-42}{30}, \frac{-49}{35}, \frac{-56}{40}$

**Exercise 5.3**

1. (i) and (iii) (ii)  $\frac{-7}{17}$  (iii)  $\frac{-3}{11}$  (iv)  $\frac{77}{-175}$   
 2. (i)  $\frac{2}{3}$

- (v)  $-\frac{11}{14}$  (vi)  $\frac{4}{15}$  (vii)  $-\frac{12}{41}$  (viii)  $\frac{3}{8}$
4. (i)  $\frac{4}{7}$  (ii)  $\frac{3}{7}$  (iii) 1 (iv)  $\frac{2}{11}$
5. (i)  $>$  (ii)  $>$  (iii)  $=$  (iv)  $<$



7. (i)  $\frac{4}{-5} < \frac{-1}{2} < \frac{-7}{15} < \frac{2}{3}$  (ii)  $\frac{-5}{3} < \frac{11}{-24} < \frac{-7}{-7} < \frac{4}{3}$  (iii)  $\frac{-7}{2} < \frac{-8}{5} < \frac{9}{-10} < \frac{-2}{10}$

8. (i) positive side (ii) negative side  
(iii) positive side (iv) negative side

9. (i)  $\frac{-1}{6} > \frac{2}{-5} > \frac{-7}{10} > \frac{3}{-4}$  (ii)  $\frac{-21}{-18} > \frac{1}{7} > \frac{-4}{9} > \frac{7}{-12}$  (iii)  $\frac{-1}{4} > \frac{-5}{16} > \frac{-5}{12} > \frac{11}{-6}$

10. (i) -16 (ii)  $-1\frac{6}{7}$  (iii) -56 (iv) -45

(v) -40 (vi) -28

11. (i) less (ii) right (iii) left

12. (i) (a) (ii) (d) (iii) (a), (b) (iv) (d)

#### Exercise 5.4

1. (i)  $\frac{5}{7}$  (ii)  $\frac{12}{19}$  (iii)  $1\frac{7}{30}$  (iv)  $4\frac{1}{36}$

2. (i) 1 (ii)  $-5\frac{17}{20}$  (iii)  $9\frac{7}{10}$  (iv)  $\frac{149}{820}$

(v)  $9\frac{11}{28}$  (vi)  $-\frac{3}{5}$

3. (i)  $1\frac{2}{9}$  (ii) 1 (iii)  $\frac{31}{39}$  (iv)  $\frac{23}{60}$

(v)  $-\frac{11}{60}$  (vi)  $\frac{9}{14}$

4. (i)  $\frac{3}{7}$  (ii) 0 (iii)  $\frac{2}{11}$  (iv)  $\frac{31}{51}$

5. Do yourself

6. (i)  $2\frac{11}{15}$  (ii)  $\frac{4}{105}$  (iii)  $-\frac{41}{63}$  (iv)  $\frac{1}{6}$

#### Exercise 5.5

1. (i)  $\frac{-1}{9}$  (ii)  $\frac{-4}{27}$  (iii)  $1\frac{33}{100}$  (iv)  $-\frac{52}{129}$

(v)  $2\frac{31}{36}$  (vi)  $-1\frac{51}{55}$

2. (i)  $\frac{-1}{18}$  (ii)  $-3\frac{19}{32}$  (iii)  $2\frac{19}{100}$  (iv)  $\frac{16}{81}$

3. (i) 1 (ii)  $\frac{1}{11}$  (iii)  $1\frac{2}{13}$

4.  $\frac{5}{18}$  5.  $-11\frac{3}{25}$  6.  $4\frac{13}{48}$  7.  $1\frac{1}{18}$

8.  $1\frac{1}{70}$  9.  $-1\frac{7}{15}$

10. (i)  $\frac{3}{5}$  (ii)  $-\frac{593}{720}$  (iii)  $3\frac{1}{8}$

1. (i)  $\frac{10}{117}$  (ii)  $-\frac{2}{3}$  (iii)  $\frac{1}{55}$  (iv)  $-\frac{8}{27}$  (v)  $\frac{81}{160}$
2. (i) 1 (ii)  $-\frac{1}{6}$  (iii)  $3\frac{1}{5}$  (iv)  $1\frac{17}{31}$
- (v)  $-\frac{3}{16}$  (vi) 22 (vii)  $-31\frac{1}{2}$
3. 0 (iv)  $\frac{11}{48}$
4. (i)  $\frac{51}{160}$  (ii)  $-\frac{2}{27}$  (iii)  $\frac{1}{324}$  (iv)  $\frac{11}{48}$
- (v)  $\frac{68}{2025}$  (vi)  $1\frac{18}{2025}$  5.  $2\frac{71}{135}$

#### Exercise 5.7

1. (i) no (ii) -1 (iii) positive (iv) negative

2. (i)  $5\frac{1}{2}$  (ii)  $-2\frac{1}{7}$  (iii)  $1\frac{16}{21}$  (iv)  $-2\frac{2}{5}$

3. (i) -1 (ii)  $\frac{5}{11}$  (iii)  $-\frac{20}{507}$  (iv)  $-3\frac{3}{13}$

4. (i)  $3\frac{1}{2}$  (ii) 2 (iii)  $\frac{8}{15}$  (iv)  $-4\frac{1}{2}$

(v)  $-\frac{3}{10}$  (vi) 0 (vii)  $\frac{1}{34}$  (viii)  $-\frac{4}{21}$

5.  $-\frac{1}{10}$  6.  $2\frac{1}{10}$  7.  $-1\frac{32}{33}$  8.  $-2\frac{21}{25}$

9.  $-1\frac{2}{3}$  10.  $-7\frac{4}{11}$  11.  $-\frac{11}{200}$

12. (i)  $1\frac{8}{13}$  (ii)  $\frac{4}{5}$  (iii)  $-4\frac{2}{3}$

13. (i) 1 (ii)  $-\frac{3}{5}$  (iii)  $\frac{25}{162}$

14. (i)  $-2\frac{1}{8}$  (ii) -7 (iii)  $1\frac{34}{43}$

#### Exercise 5.8

1. (i)  $\frac{13}{36}, \frac{23}{72}$  (ii)  $\frac{7}{20}, \frac{13}{40}$  (iii)  $-\frac{81}{80}, \frac{43}{40}$  (iv)  $-\frac{5}{28}, \frac{29}{56}$

2. (i)  $\frac{11}{12}, \frac{25}{24}, \frac{5}{6}$  (ii)  $-\frac{26}{35}, -\frac{24}{35}, -\frac{22}{35}$  (iii)  $\frac{7}{20}, \frac{11}{30}, \frac{23}{60}$  (iv)  $-\frac{4}{12}, -\frac{3}{12}, -\frac{2}{12}$

3. (i)  $-\frac{13}{8}, -\frac{5}{4}, -\frac{1}{2}, \frac{1}{4}$  (ii)  $-\frac{11}{20}, -\frac{1}{2}, -\frac{2}{5}, -\frac{3}{10}$  (iii)  $-\frac{2}{20}, -\frac{3}{20}, -\frac{4}{20}, -\frac{5}{20}$

(iv)  $-\frac{259}{480}, -\frac{131}{240}, -\frac{67}{120}, -\frac{137}{120}$  4.  $\frac{83}{76}, \frac{5}{24}, \frac{11}{84}, -\frac{1}{42}, -\frac{15}{84}, -\frac{43}{168}$

5.  $\frac{9}{13}, \frac{8}{13}, \frac{7}{13}, \frac{6}{13}, \frac{5}{13}, \frac{4}{13}, \frac{3}{13}, \frac{2}{13}, \frac{1}{13}, 0$  6. -2, -3 7.  $-\frac{37}{28}, -\frac{9}{14}, \frac{1}{28}$

#### Mental Maths-4

1.  $2\frac{3}{5}$  2. -2 3. yes 4.  $\frac{25}{48}$

5. 18 6.  $\frac{2}{5}$

#### Exercise 6.1

1. (i)  $3^5$  (ii)  $6^3$  (iii)  $4^4$  (iv)  $7^3$

(v)  $5^5$  (vi)  $5^3 \times 3^3$  (vii)  $b^4 c^2$

(viii)  $7^3 \times 10^3$  (ix)  $7^3 \times 2^3$  (x)  $x^2 y^2 z^2$  (xi)  $7^3 \times 10^3$

3. (i) 64 (ii) 729 (iii) 121 (iv) 625

4. (i) 625 (ii) 9 (iii) 49 (iv) 441

5. (i) 64 (ii) -125 (iii) -729 (iv) 1,000

6. (i)  $3^2 \times 10^5 = (-3)^2 \times (-10)^5$  (ii)  $2^3 \times 7^3 \times 10^9 > 2^3 \times (-7)^3 \times 10^9$

7. (i) 196 (ii) 1,404 (iii) 0 (iv) 3,025

(v) 144 (vi) 1,56,25,00,000 (vii) 729

8. (i) 216 (ii) 100 (iii) 729

9. (i)  $2^2 \times 3^2$  (ii)  $2^3$  (iii)  $2^2 \times 5^3$  (iv)  $2^4 \times 5^3 \times 7^3$

(v)  $2^2 \times 3^2 \times 5^3 \times 7^3$  (vi)  $2^3 \times 5^3 \times 7^3$  (vii)  $2^{10}$

10. (i) 64 (ii) 16 (iii) 49 (iv) 59,049

11. Do yourself

12. (i) 264 (ii) 2,754 (iii) 1,152

13. (i) 1 (ii) 1 (iii) -1 (iv) -1

2. (i)  $(-1)^{10}$  (ii)  $6^7$  (iii)  $5^{12}$  (iv)  $(-9)^{11}$   
 (v)  $(-8)^{12}$  (ii)  $3^{13}$
3. (i)  $2^5$  (ii)  $51^{10}$  (iii)  $(-16)^4$  (iv)  $(-18)^4$   
 (v)  $a^5$  (vi)  $(-a)^6$  (vii)  $(-a)^{23}$  (viii)  $4^{12}$   
 (ix)  $12^{15}$  (x)  $3^{12}$
4. (i)  $(5^3)^4$  (ii)  $3^7 \times 7$  (iii)  $(2 \times 5)^4$  (iv)  $(10^4)^2$   
 (v)  $(4^2)^3$
5. (i)  $35^5$  (ii)  $14^{11}$  (iii)  $(6a)^{13}$  (iv)  $15^5$   
 (v)  $(\frac{2}{5})^6$  (vi)  $(\frac{1}{5})^{13}$  (vii)  $21^{27}$  (viii)  $(\frac{x}{5})^3$
6. (i) 1 (ii) 1 (iii) 1 (iv) 1
7. (i) false (ii) false (iii) true (iv) true
8. (i)  $3^0$  or 1 (ii) 360 (iii)  $5^5$  (iv)  $\frac{1}{2}$   
 (v)  $a^3 b$  (vi)  $\frac{7}{16}$
9. (i)  $2 \times 3 \times 3 \times 3 \times 3 \times 3 \times 3 \times 5$  (ii)  $2 \times 3 \times 389$  (iii)  $7 \times 727$
10. (i) 5 (ii) 1 or (-1) (iii) 4 (iv) 2  
 (v) 2 (vi) 6
11. (i)  $\frac{81}{100}$  (ii)  $\frac{9}{128}$  (iii) -3 (iv)  $1\frac{17}{32}$
12.  $(-5)^{39}$  13.  $12^5$
14. (i) 2 (ii) 1 (iii) 4

**Exercise 6.3**

1. (i)  $(\frac{5}{3})^2$  (ii)  $(\frac{1}{-8})^{12}$  (iii)  $(\frac{1}{-9})^{20}$  (iv)  $7^4$
2. (i)  $\frac{1}{512}$  (ii)  $\frac{-1}{4782969}$  (iii) 20736 (iv)  $1\frac{61}{64}$
3. (i)  $(\frac{-1}{3})^5$  (ii)  $7^6$  (iii)  $(\frac{7}{4})^3$  (iv)  $(\frac{9}{11})^2$
4. (i)  $\frac{-112}{225}$  (ii)  $26\frac{2}{3}$  (iii) 2160 (iv)  $\frac{9}{28}$
5.  $\frac{16}{3}$  6.  $3^{-1}$
7. (i)  $7.784 \times 10^{11}$  m (ii)  $6.43 \times 10^6$  km  
 (iii)  $1.53 \times 10^9$  cu m (iv)  $3.84 \times 10^9$  m  
 (v)  $3.0 \times 10^8$  m/s
8. (i)  $9.07 \times 10^9$  (ii)  $9.0 \times 10^9$  (iii)  $4.263 \times 10^8$   
 (iv)  $2.34 \times 10^{10}$  (v)  $6.26 \times 10^{12}$  (vi)  $3.91517 \times 10^{12}$
9. (i) 4,65,000 (ii) 0.000039 (iii) 0.0000024 (iv) 44,50,00,000
10. 22 (i) (b) (ii) (c) (iii) (c)  
 (iv) (b) (v) (a) (vi) (a)

**Mental Maths-5**

1.  $\frac{1}{81}$  2.  $(\frac{2}{3})^5$  3. 17  
 4. -1 5.  $(\frac{-2}{7})^4$  6. 1,13,90,625

**Exercise 7.1**

1. (i) 3 (ii) 5 (iii) 8 (iv) 12
2. (i) monomial (ii) trinomial (iii) binomial (iv) quadrinomial  
 (v) trinomial (vi) monomial (vii) trinomial (viii) trinomial
3. (i) 4 (ii) 3 (iii) 4 (iv) 11
4. (i) unlike (ii) unlike (iii) unlike (iv) unlike  
 (v) like (vi) like
5. terms: coefficients  
 (i)  $3x$  3  
 (ii)  $6x$  6  
 (iii)  $-5x$  -5  
 (iv)  $x^2$  1  
 $xz$  z  
 $xy$  y  
 (v)  $2p^2x$   $2p^2$   
 $-41px$   $-41p$   
 (vi)  $-5xb$   $-5b$
6. terms: coefficients  
 (i)  $-7x^2y$   $-7x^2$

- (ii)  $2xyz$   $2xz$   
 $-3x^2yz$   $-3x^2z$
- (iii)  $ym^2$   $m^2$   
 $5y^2m$   $5m$   
 $-15x^2y$   $-15x^2$
7. (i) quadratic (ii) quadratic (iii) cubic (iv) cubic  
 (v) cubic
8. (i)  $m^2$  (ii)  $\frac{1}{2}xy$  (iii)  $(y-z)+yz$  (iv)  $p^3 - (pq)$   
 (v)  $x^2 + y^2$

**Exercise 7.2**

1. (i) 11a (ii)  $2xy$  (iii)  $3x^2 - 2xb$   
 (iv)  $8m^3 - 3mq + 14$  (v)  $2y^2 + 3y + 21$   
 (vi)  $6x^2 + 2x$  (vii)  $x^2 + xy + 8y^2 - 2$
2. (i)  $4xy$  (ii)  $-x^2 - 4y^2$  (iii)  $x^2 - xb$  (iv)  $4a^3 - 2m^3$   
 (v)  $-p^2 + 3pq + 11q^2$  (vi)  $4b^3 + 13a^2b - 6ab^2$
3.  $7a^2 - 5ab - 14b^2$
4. (i)  $10a^3 - 9a^2 - 6$  (ii)  $12x - 8y$  (iii)  $-3a^2 + 4b^2$   
 (iv)  $6p^2 + 5pb^2 + 5b^2 - 3p^2b$
5.  $8x^2 - 9x - 3$  6.  $22x^2 + 56xy - 40y^2$
7. (i)  $-10x^2 - x + 6$  (ii)  $16x^2 - 11x + 8$  (iii)  $-7x + 20$
8.  $23x^2y^2 - 17x^2y^2 + 7xy^2 - 4x^2y + 3$  9.  $6x - 2y + z$
10.  $-2a + 2b + 4c$  11.  $5a^3 + 10a^2b + 16ab^2 - 11b^3$
12.  $-3x + 3y + 8$  13.  $-10x^2 + 19x - 8$
14.  $x^3 + 18x^2 - 8x - 11$  15.  $23x - 8y - 8z$

**Exercise 7.3**

1. (i) 3 (ii) 3 (iii) 31 (iv) -53  
 (v) -2 (vi) 1
2. (i) 8 (ii) 5 (iii) 6 (iv) 26  
 (v) 0 (vi) 15
3. (i) 3 (ii) 54 (iii) 18  
 4. 43 5. 245 6. -55 7. 7
8. (i)  $\frac{4}{15}$  (ii)  $7\frac{9}{16}$  (iii) 0 (iv) 0  
 9. (i) -7 (ii) 7 (iii) -4 10. 37

**Exercise 7.4**

1. (i)  $l \times b$  (ii)  $2(l + b)$  (iii)  $l \times l$  (iv)  $4 \times l$   
 2. (i) T (ii) F (iii) F  
 3. (i) 5 (ii) 6 (iii) 1

**Mental Maths-6**

1.  $15xyz$  2. 2 3. -1 4.  $\frac{-2}{3}a^2b^2 (b^2 + 3a^2)$   
 5. 21 6.  $-6a^2 + 8b - 1$

**Exercise 8.1**

1. (i) 2 added to 3 times y gives the result 9.  
 (ii) 5 times x subtracted from 7 gives 1.  
 (iii) 8 times x equal to 48.  
 (iv) 7 times b added to 18 gives the result 22.  
 (v)  $\frac{6}{7}$  times x is equal to 14.  
 (vi) 8 subtracted from  $\frac{3}{4}$  times y is equal to 9.
2. (i)  $x + 7 = 10$  (ii)  $b - 4 = 3$  (iii)  $4x - 4 = 9$   
 (iv)  $\frac{x}{7} = 3$  (v)  $\frac{3}{8}x - 3 = 2$
3. (i)  $6x + 5 = 35$  (ii)  $3x + 8 = 42$  (iii)  $x + x + 2x = 180^\circ$   
 (iv)  $x + (x + 1) = 44$  (v)  $x + 2x = 200 - 44$   
 (vi)  $x + \frac{3x}{7} = 42$  (vii)  $x + \frac{x}{3} = 353$   
 (viii)  $2[(3x - 5) + x] = 210$
4. (i)  $x = \frac{6}{5}$  or  $1\frac{1}{5}$  (ii)  $x = \frac{25}{6}$  or  $4\frac{1}{6}$  (iii)  $x = 2$   
 (iv)  $x = 13$  (v)  $x = \frac{9}{11}$  (vi)  $y = -3$  (vii)  $y = 1$   
 (viii)  $z = \frac{10}{7}$  or  $1\frac{3}{7}$
5. (i)  $x = 4\frac{5}{8}$  (ii)  $x = 184\frac{8}{17}$  (iii)  $m = 2$  (iv)  $x = -5$   
 (v)  $y = 12$  (vi)  $x = 4\frac{2}{7}$  (vii)  $x = 4\frac{2}{7}$  (viii)  $y = 1\frac{6}{11}$

**Exercise 8.2**

1. (i) 2 (ii) 20 (iii) 22 (iv) 2
- (v)  $\frac{-31}{42}$  (vi)  $4\frac{1}{6}$  (vii)  $3\frac{9}{10}$  (viii)  $\frac{13}{24}$
- (ix)  $1\frac{11}{25}$  (x)  $1\frac{5}{7}$  (xi)  $1\frac{1}{4}$  (xii)  $1\frac{2}{5}$
- (xiii)  $1\frac{17}{18}$  (xiv) -6 (xv) 2 (xvi) -11
2. 30 3.  $2\frac{3}{4}$  4. 18

**Exercise 8.3**

1. 56, 57, 58, 59 2. 5 3. 63 4. 15, 16, 17
5. 30 years, 15 years 6. David = 132 runs, Robin = 66 runs
7. 9 years 8. 70 9. 9 years
10.  $l = 21\text{m}, b = 39\text{m}$  11. 72, 112
12. 31 years, 13 years 13. 27, 28
14. 25, 4 15.  $3\frac{1}{4}$  16. 35 17. 44, 46, 48
18. Length = 38m, Breadth = 33m 19. 56 years, 77 years
20. Cost of one notebook = ₹ 30 and cost of one textbook = ₹ 20.

**Mental Maths-7**

1.  $\frac{2}{5}$  2. 2 3. -2 4.  $4\frac{1}{2}$
5. 13 6. 22, 23, 24 7. 65 kg 8. 11 years
9. length = 14 cm and breadth = 9 cm. 10. 7

**Exercise 9.1**

1. (i) 3 : 5 (ii) 5 : 12 (iii) 1 : 25 (iv) 10 : 1
2. 35 neem trees 3.  $80^\circ, 60^\circ, 40^\circ$
4. (i) 1 : 1 (ii) 2 : 1 (iii) 1 : 2 5. ₹ 3000, ₹ 4500
6. 50P coins = 800, 2 rupee coins = 300, 5 rupee coins = 160
7. (i) 161 : 439 (ii) 439 : 600 (iii) 600 : 161
8. 17 : 200 9. 124, 31 10. The number of female teachers 65

**Exercise 9.2**

1. (i)  $\frac{24}{25}$  (ii)  $\frac{5}{4}$  (iii)  $\frac{7}{4}$  (iv)  $\frac{7}{8}$
2. (ii) is equivalent; (i) and (iii) are not equivalent
3. (i)  $\frac{30}{50}, \frac{45}{75}, \frac{60}{100}$  (ii)  $\frac{12}{18}, \frac{18}{27}, \frac{24}{36}$  (iii)  $\frac{70}{84}, \frac{105}{126}, \frac{140}{168}$
4. (i) 44 (ii) 4 (iii) 35 (iv) 66
- (v) 22 (vi) 40 (vii) 81 (viii) 143
- (ix) 3

**Exercise 9.3**

1. (ii), (iv) and (v) are in proportion
2. (a) Yes (b) No (c) Yes (d) No
3. 6 4. 12 5. 15
6. ₹ 11200 7. 120 8. ₹ 144000

**Exercise 9.4**

1. ₹ 560 2. ₹ 6000 3. 318 litres 4. 30
5. ₹ 868 6. (a) ₹ 48.80 (b) 10 kg 7. 16.8 kg
8. 22 bags 9. 9 kg of apples for ₹ 288
10. 32 boxes

**Mental Maths-8**

1. 3 2. ₹ 570 3. 12 : 5 4. 6.6
5. ₹ 225 6. 46.66 cm

**Exercise 10.1**

1. (i) 90% (ii) 54% (iii) 0.36% (iv) 55%
- (v) 102% (vi) 95%
2. (i) 0.16 (ii) 0.82 (iii) 0.35 (iv) 0.704
- (v) 0.00014 (vi) 0.842
3. (i) 75% (ii) 68% (iii) 4% (iv) 120%
- (v) 325% (vi) 160%
4. (i) 3.5 kg (ii) 2.4 litres (iii) 100 (iv) 47.25
- (v) 10 metres 5. 600
6. (i) ₹ 19 (ii) 12.5% (iii) 23% 7. 13%
8. ₹ 99 9. 64 10. 40% 11. 44%
12. 63 13. Rashmi 14. 50 15. ₹ 800

**Exercise 10.2**

1. (i) ₹ 570 (ii) ₹ 295 (iii) ₹ 1850 (iv) ₹ 4224.50
2. (i) profit = ₹ 33, profit % = 275% (ii) profit = ₹ 15, profit % = 21.43%
- (iii) profit = ₹ 180, profit % = 32.14% (iv) loss = ₹ 600, loss % = 33.33%

3. (i) ₹ 898.80 (ii) ₹ 273.70 (iii) ₹ 280 (iv) ₹ 2625
4. (i) ₹ 600 (ii) ₹ 1600 (iii) ₹ 7736.84 (iv) ₹ 8333.33
5. C.P. = ₹ 75, profit % = 6.67%
6. ₹ 7700 7. ₹ 9% p.a. 8. ₹ 500 9. loss% = 66%
10. profit % = 25% 11. profit % = 56.25% 12. gain % = 20%
13. loss% = 1.82% 14. ₹ 6540, loss % = 6% 15. ₹ 10304
16. ₹ 2783 17. ₹ 800 18. ₹ 1210
19. loss % = 4% 20. ₹ 30.30 per kg

**Exercise 10.3**

1. (i) ₹ 75 (ii) ₹ 1000 (iii) ₹ 675 (iv) ₹ 1600
2.  $2\frac{1}{2}$  years 3. ₹ 1080, ₹ 7080 4. ₹ 54.40
5. 5% per annum 6. 5% per annum 7. 9 years
8. 3 years 9. 12.5% 10. ₹ 900 11. 4.5% p.a.

**Mental Maths-9**

1. 1800 2. ₹ 5500 3. 450 4. 450
5. 12.5%

**Exercise 11.1**

1. (i) equal (ii)  $180^\circ$  (iii)  $93^\circ$  (iv)  $90^\circ$
2. (i)  $x = 60^\circ, y = 60^\circ, z = 120^\circ$
- (ii)  $x = 36^\circ, y = 144^\circ, z = 80^\circ$
3. (i)  $37^\circ$  (ii)  $42^\circ$  (iii)  $32^\circ$  (iv)  $78^\circ$
4. (i)  $48^\circ$  (ii)  $65^\circ$  (iii)  $103^\circ$  (iv)  $45^\circ$
5. (i) and (iv) 6. (ii), (iii) and (iv)
7.  $112.5^\circ$  and  $67.5^\circ$  8.  $27^\circ$  and  $63^\circ$
9. (i) complementary (ii) complementary (iii) supplementary
- (iv) supplementary (v) complementary (vi) supplementary
10.  $40^\circ$  and  $50^\circ$  11.  $60^\circ$
12. (i)  $\angle NOK$  and  $\angle POL$  (ii)  $\angle NOK$  and  $\angle LOM, \angle LON$  and  $\angle MOK$
- (iii)  $\angle NOK$  and  $\angle KOM, \angle KOM$  and  $\angle MOL, \angle LOM$  and  $\angle LON, \angle LON$
- and  $\angle NOK, \angle POL$  and  $\angle POK$  (iv) LK and NM
13.  $30^\circ$  14. (i) No, because angles are overlapping (ii) Yes (iii) Yes (iv) Yes
15. Linear pairs: (ii) and (ii) 16.  $36^\circ, 54^\circ$  17.  $45^\circ, 45^\circ$
18.  $30^\circ, 60^\circ$  19.  $90^\circ, 90^\circ$  20.  $135^\circ, 45^\circ$  21.  $113^\circ, 67^\circ$
22. (i) an obtuse angle (ii) a right angle (iii) an acute angle
23. (i)  $\angle COQ$  and  $\angle COP; \angle BOQ$  and  $\angle BOP; \angle AOQ$  and  $\angle AOP; \angle BOC$
- and  $\angle BOA; \angle POC$  and  $\angle POA; \angle QOC$  and  $\angle QOA$
- (ii)  $\angle COQ$  and  $\angle AOP; \angle COP$  and  $\angle AOQ$  (iii)  $\angle COQ$  and  $\angle BOC$
24.  $\angle 2 = 120^\circ, \angle 3 = 60^\circ, \angle 4 = 120^\circ$
25. (i)  $75^\circ$  (ii)  $75^\circ$  (iii)  $62^\circ$  (iv)  $62^\circ$

**Exercise 11.2**

1. (i)  $(\angle 1, \angle 5); (\angle 2, \angle 6); (\angle 3, \angle 7); (\angle 4, \angle 8)$
- (ii)  $(\angle 1, \angle 7); (\angle 2, \angle 8); (\angle 3, \angle 5); (\angle 4, \angle 6)$
- (iii)  $(\angle 2, \angle 5); (\angle 3, \angle 8)$
2.  $\angle 3 = \angle 5 = \angle 7 = 75^\circ, \angle 2 = \angle 4 = \angle 6 = \angle 8 = 105^\circ$
3. (i)  $x = 70^\circ, y = 110^\circ$  (ii)  $x = 135^\circ, y = z = 45^\circ$
4.  $a = x = y = 65^\circ, b = z = 115^\circ$
5.  $x = 130, y = 115$
6.  $x = 35^\circ, y = 45^\circ, z = 100^\circ$
7. (i) no (ii) yes (iii) yes
8.  $\angle 1 = \angle 3 = 75^\circ, \angle 2 = \angle 4 = 105^\circ$
9. (i) 3 (ii) 5 (iii) 4
10. (i) 1 (ii) 7 (iii) 6
11. (i)  $a = b = 30^\circ$  (ii)  $a = 118^\circ, b = 62^\circ$
- (iii)  $w = 100^\circ, x = 80^\circ, y = 40^\circ, z = 140^\circ$
12. (i) (c) (ii) (a) (iii) (b) (iv) (d)

**Mental Maths - 10**

1. parallel 2.  $\angle 2, \angle 6$  and  $\angle 8$  3.  $x = 115^\circ, y = 115^\circ$
4.  $130^\circ$  5. four pairs

**Exercise 12.1**

1. (i) equilateral (ii) scalene (iii) isosceles (iv) scalene
2. (i)  $80^\circ$  (ii)  $59^\circ$  (iii)  $49^\circ$  (iv)  $80^\circ$
- (v)  $59^\circ$  (vi)  $45^\circ$
3. (i) acute-angled triangle (ii) acute-angled triangle
- (iii) obtuse-angled triangle (iv) right-angled triangle
- (v) obtuse-angled triangle
4.  $80^\circ, 60^\circ, 40^\circ$  5.  $54^\circ$  6.  $65^\circ, 65^\circ, 50^\circ$

7.  $45^\circ, 60^\circ, 75^\circ$   
 10. (i)  $x = 125^\circ$  (ii)  $x = 85^\circ, y = 57^\circ$  (iii)  $x = 103^\circ$  (iv)  $y = 53^\circ$   
 11. (i)  $40^\circ$  (ii)  $40^\circ$  (iii)  $50^\circ$   
 12. (i) yes (ii) no (iii) no (iv) no  
 (v) yes (vi) yes

13. The other two angles are such that their sum is  $115^\circ$ .

14. Do yourself

15. (i) yes (ii) yes (iii) yes (iv) yes  
 (v) no

16. Do yourself

17. (i) (b) (ii) (c) (iii) (a) (iv) (b)

### Exercise 12.2

1. (i)  $101^\circ$  (ii)  $93^\circ$  (iii)  $126^\circ$   
 2. (i)  $33^\circ$  (ii)  $69^\circ$  (iii)  $38^\circ$   
 3.  $40^\circ, 80^\circ$  4.  $70^\circ, 70^\circ$  5.  $95^\circ, 49^\circ, 36^\circ$  6.  $70^\circ, 70^\circ$   
 7.  $135^\circ$  8.  $\angle PRS = 120^\circ$   
 9. (i)  $24^\circ$  (ii)  $58^\circ$  10.  $330^\circ$   
 11.  $75^\circ$  12. Do yourself 13.  $45^\circ, 75^\circ$  and  $60^\circ$

### Exercise 12.3

1. (i), (iii), (v), (vi) 2. DE, EF  
 3. (i)  $>$  (ii)  $>$  (iii)  $>$  (iv)  $<$   
 (v)  $>$  (vi)  $<$   
 5. (i) yes (ii) yes (iii) yes  
 6. (i)  $>$  (ii)  $>$  (iii)  $>$   
 7. (i)  $<$  (ii)  $<$  (iii)  $>$   
 8. (i)  $a = 40^\circ, b = 110^\circ$  (ii)  $a = 90^\circ, b = 135^\circ$   
 (iii)  $a = 47^\circ, b = 133^\circ$   
 9. (i)  $a = 60^\circ$  (ii)  $b = 44^\circ$  (iii)  $c = 45^\circ$   
 10.  $x = 60^\circ, y = 30^\circ$

### Exercise 12.4

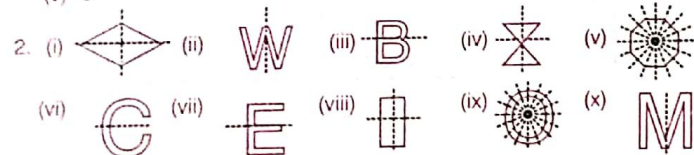
1. (i) 17 (ii) 10 (iii) 25  
 2. (i)  
 3. yes 4. 26 m 5. 10 m 6. 24 cm  
 7. 13 m 8. 8.86 m 9. 2.5 m 10. 15 m  
 11. (ii) 12. 13 cm 13. 8 cm 15. 16 cm

### Mental Maths-11

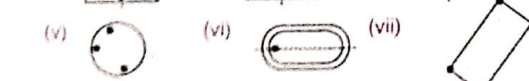
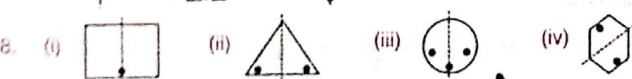
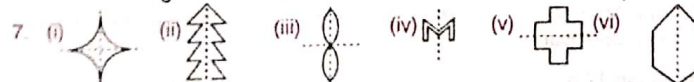
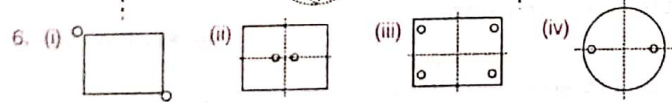
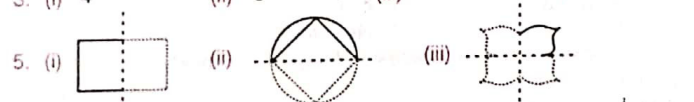
1.  $60^\circ$  2.  $50^\circ$  3. No 4. True  
 5.  $45^\circ$  6. 29 cm 7.  $30^\circ, 60^\circ, 90^\circ$

### Exercise 13.1

1. (i) 4 (ii) 2 (iii) 2 (iv) 2  
 (v) 3



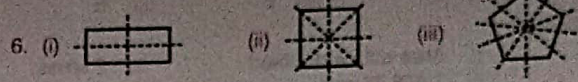
3. (i) 4 (ii) 3 (iii) 6 4. F, G, J



### Exercise 13.2

1. (ii) 2. yes 3.  $W \rightarrow 1, L \rightarrow 1, I \rightarrow 2$   
 4. It has three lines of symmetry and three rotational symmetry.

5. (i) 4 (ii) Infinite (iii) 6



7. (i) line (ii) rotational (iii) both (iv) both

8. Do yourself

9. M, H, Y, X, A, D10. 0, 8, 1

11. (i) (b) (ii) (c) (iii) all (iv) (c)

### Exercise 14.1

1. (i) sphere (ii) cylinder (iii) tetrahedron

S.N.	Name of Solids	Figures	Number of Faces (F)	Number of Edges (E)	Number of Vertices (V)	F - E + V
(i)	Triangular pyramid		4	6	4	2
(ii)	Square pyramid		5	8	5	2
(iii)	Cube		6	12	8	2
(iv)	Cuboid		6	12	8	2
(v)	Circular cone		2	1	1	2
(vi)	Cylinder		3	2	0	1

3. (i), (ii) and (iv)

4.  $a = 2, b = 4, c = 6$  5. Do it yourself

6. (i)  $\rightarrow$  (c) (ii)  $\rightarrow$  (a)  
 (iii)  $\rightarrow$  (d) (iv)  $\rightarrow$  (b)

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

- (v) True

8. (i) b (ii) c (iii) c (iv) a

### Exercise 14.2

1 to 3, Do it yourself

4. (i) 10 (ii) 12 (iii) 5 to 12, Do it yourself

13.  $12 \times 3 \times 3$

14. (i) 64 (ii) 4 (iii) 4

### Exercise 15.1

1. (i) perimeter = 50 cm, area =  $156 \text{ cm}^2$   
 (ii) perimeter = 72 cm, area =  $275 \text{ cm}^2$   
 (iii) perimeter = 20 cm, area =  $18.75 \text{ cm}^2$   
 2. (i) 44 m (ii) 30 cm (iii) 10 cm  
 3. (i) 0.147 ha (ii) 0.00005 ha  
 4. (i) 12.04 acres (ii) 8.35 acres  
 5. 4 cm, 58 cm 6. 9 cm, 90 cm  
 7. ₹ 3040, ₹ 78 8. ₹ 1080 9. 1.4641 ha 10. 7500  
 11.  $4800 \text{ m}^2$  12. ₹ 87500 13. 4.5 m 14. 10.8m, 112m<sup>2</sup>  
 15. ₹ 480 16. 29.5cm, 870.25sqcm 17. ₹ 1281

### Exercise 15.2

1.  $656 \text{ sq m}$  2.  $576 \text{ sq m}$  3. ₹ 9000  
 4.  $424 \text{ sq m}$ , ₹ 6360 5.  $90.24 \text{ sq m}$ , ₹ 270.72  
 6. (i)  $12.98 \text{ sq m}$ , (ii)  $2.16 \text{ sq m}$  7.  $51,600 \text{ cm}^2$   
 8.  $1026 \text{ sq m}$ ,  $584 \text{ sq m}$ , ₹ 11680 9. ₹ 4080 10.  $2624 \text{ sq m}$   
 11.  $244 \text{ sq m}$ ,  $336 \text{ sq m}$  12.  $2344.75 \text{ sq m}$   
 13.  $14.06 \text{ sqm}$ , ₹ 780.80 14.  $396 \text{ sqm}$ ,  $504 \text{ sqm}$ .  
 15. (i) ₹ 4460 (ii) ₹ 34125

### Exercise 15.3

1. (i)  $108 \text{ cm}^2$  (ii)  $416 \text{ dm}^2$  (iii)  $315 \text{ m}^2$  (iv)  $51 \text{ m}^2$   
 2.  $1,680 \text{ cm}^2$  3.  $528 \text{ cm}^2$  4.  $12.65 \text{ cm}$ ,  $50.6 \text{ cm}$   
 5. 24 cm 6. Base = 32 cm, Height = 16 cm  
 7. 4 cm 8. ₹ 9,600 9. ₹ 6615 10.  $11.25 \text{ sq m}$

### Exercise 15.4

1. (i)  $15 \text{ cm}^2$  (ii)  $36 \text{ cm}^2$  (iii)  $37.5 \text{ cm}^2$  (iv)  $35 \text{ cm}^2$   
 2. (i)  $27 \text{ sq cm}$  (ii) 30 cm (iii) 4 dm  
 3.  $300 \text{ cm}^2$  4. 16 cm 5. 65 cm 6. ₹ 588  
 7.  $154 \text{ cm}^2$  8. 12.65 m (approx)  
 9. 8.06 m, 32.24 m 10. 25 m 11.  $108 \text{ sq m}$  12.  $5,040 \text{ sq cm}$

13. 50 m      14. 12 cm  
 15. (i) a      (ii) d      (iii) c      (iv) b
- Mental Maths-12**  
 1. 110 m      2. Area will be doubled      3. 2 times  
 4. Square      5. 1,478.75 cm<sup>2</sup>      6. 200 m

**Exercise 16.1**

1. (i) 572 cm      (ii) 66 cm      (iii) 77 cm  
 (iv) 594 cm      (v) 176 cm  
 2. (i) 21 cm      (ii) 62.4 m      (iii) 7.64 cm  
 3. 88 cm      4. 3 : 7      5. 800 times      6. 10.5 cm  
 7. 105 m      8. 6.4 m      9. ₹ 818.10      10. 12.6 cm  
 11. 13.4 m      12. 88 cm      13. 13.2 cm  
 14. (i) 88,000 cm, 880 m, 0.88 km  
 15. 5,303.03 revolution approximately

**Exercise 16.2**

1. (i) 0.385 m<sup>2</sup>      (ii) 1,386 cm<sup>2</sup>      (iii) 2,464 cm<sup>2</sup>      (iv) 0.5544 dm<sup>2</sup>  
 2. (i) 2,464 cm<sup>2</sup>      (ii) 22.91 m<sup>2</sup>      (iii) 34,650 mm<sup>2</sup>      (iv) 13.86 km<sup>2</sup>  
 3. 7.61 m      4. ₹ 34,650 m<sup>2</sup>      5. 1,694 cm<sup>2</sup>  
 6. ₹ 62,228 approx.      7. 3 : 4      8. ₹ 27,697 approx.  
 9. ₹ 1,636      10. ₹ 12,246      11. 2114 cm<sup>2</sup>      12. 33.59 m<sup>2</sup>  
 13. 8.25 cm<sup>2</sup> 14. ₹ 6,476.25  
 15. (i) d      (ii) b      (iii) c      (iv) b

**Mental Maths-13**

1.  $2\pi x^2$       2. 4 : 9      3. 21 cm      4. 15 m  
 5. 125      6. 88 cm

**Exercise 17.1**

1. Refer to textbook

S. No.	Money Contributed	Tally Marks	Frequency (No. of Students)
1.	2		4
2.	3		4
3.	4		4
4.	5		4
5.	6		4
6.	7		4
		Total	40

4. (i) 5      (ii) 1      (iii) 6      (iv) 17  
 (v) 4  
 5. (i) 12 years      (ii) 19      (iii) 7      (iv) 9

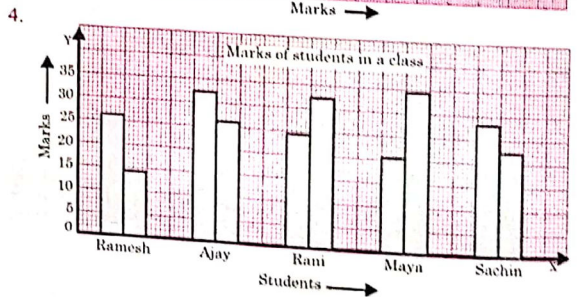
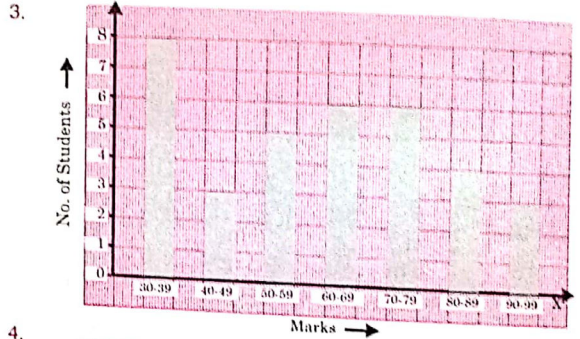
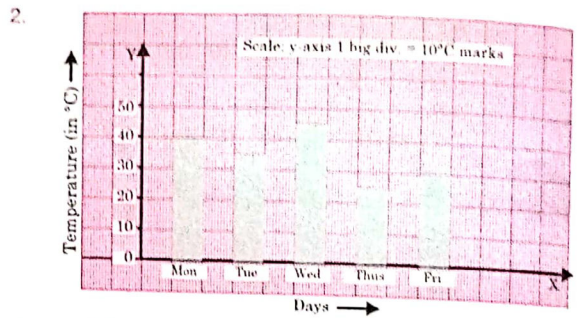
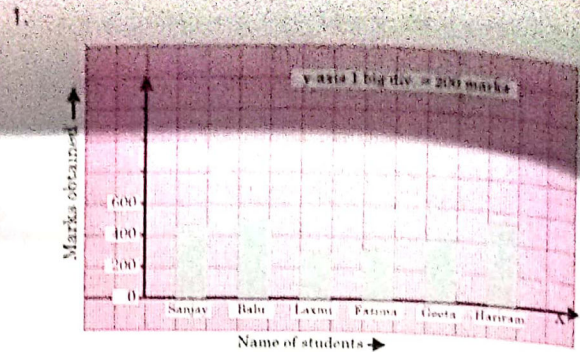
**Exercise 17.2**

1. 3.3 seconds  
 2. (i) 9      (ii) 18      (iii) 24.7  
 3. (i) 10.11      (ii) 21      (iii) 11  
 4. 16      5. 15      6. 16      7. 3.4  
 8. (i) 11.7      (ii) 4.8      (iii) Monday, Thursday and Friday  
 (iv) 4  
 9. (i) 30 kg      (ii) 34.93 kg  $\approx$  35 kg      (iii) 51 kg  
 (iv) 7  
 10. (i) 12.5      (ii) 3, because he played only 3 games.  
 (iii) 4.5      (iv) x  
 11. Batsman C

**Exercise 17.3**

1. (i) T      (ii) F      (iii) T      (iv) F  
 2. (i) 8      (ii) 2.75      (iii) 4      (iv) 65  
 (v) 27  
 3. (i) 34      (ii) 125      (iii) 25      (iv) 2.4  
 4. Median  $\rightarrow$  49, Mode  $\rightarrow$  26, New Median  $\rightarrow$  40, New Mode  $\rightarrow$  26, No.  
 5. Median  $\rightarrow$  141, Mode  $\rightarrow$  142  
 6. (i) 119      (ii) 22      7. 32, 32, 32  
 8. Median  $\rightarrow$  150, Mode  $\rightarrow$  0, No      9. 62      10. 5

**Exercise 17.4**



5. Draw bar graph yourself  
 (i) Manisha      (ii) ₹ 700  
 6. (i) London      (ii) New York  
 (iii) Hottest - London, Coldest - Bangkok (iv) Tokyo  
 7. Do it yourself  
 8. Draw bar graph yourself  
 (i) Science      (ii) Hindi and Maths      (iii) Yes, Hindi and Maths  
 9. (i) Education      (ii) Electricity and sanitation  
 (iii) ₹ 75 lakhs      (iv) ₹ 27 lakhs more  
 10. (i) Mumbai      (ii) Mumbai, Bengaluru      (iii) Jodhpur and Bengaluru  
 (iv) Jodhpur

**Exercise 17.5**

1.  $\frac{1}{2}$       2.  $P(\text{a head}) = \frac{2}{5}$        $P(\text{a tail}) = \frac{3}{5}$   
 3. (i)  $\frac{2}{3}$       (ii)  $\frac{1}{3}$       4. (i)  $\frac{11}{40}$       (ii)  $\frac{7}{40}$   
 5.  $\frac{19}{24}$   
 6. (i)  $\frac{1}{6}$       (ii)  $\frac{2}{3}$       (iii)  $\frac{1}{2}$



# ANSWERS

## Exercise 2.1

- (i) T (ii) T (iii) F (iv) T
- (i)  $\frac{12}{13}$  (ii)  $-\frac{5}{7}$  (iii)  $\frac{7}{11}$  (iv)  $-\frac{13}{15}$   
(v)  $-\frac{2}{9}$
- (i) 33,45,66 (ii) 6,16,32
- (i)  $\frac{3}{4}$  (ii)  $-\frac{2}{5}$  (iii)  $-\frac{5}{11}$  (iv)  $\frac{11}{13}$
- (i) > (ii) < (iii) = (iv) <
- (i)  $\frac{-4}{6}, \frac{1}{3}, \frac{4}{9}, \frac{7}{12}$  (ii)  $\frac{3}{-2}, \frac{-1}{2}, \frac{-1}{4}, \frac{-1}{6}, \frac{1}{3}$   
(iii)  $\frac{1}{35}, \frac{1}{5}, \frac{3}{7}, \frac{7}{10}$  (iv)  $\frac{15}{-20}, \frac{-2}{6}, \frac{15}{32}, \frac{3}{4}$
- (i)  $\frac{3}{4}, \frac{2}{9}, \frac{-5}{12}, \frac{-2}{3}$  (ii)  $\frac{4}{7}, \frac{-1}{7}, \frac{3}{-14}, \frac{-5}{21}$   
(iii)  $\frac{3}{4}, \frac{2}{5}, \frac{-2}{5}, \frac{-1}{2}, -1$  (iv)  $\frac{11}{12}, \frac{4}{21}, \frac{-2}{15}, \frac{-1}{3}, \frac{-7}{18}$
- (i)  $-\frac{8}{13}, \frac{8}{13}$  (ii) -2, 2 (iii)  $-\frac{2}{11}, \frac{2}{11}$  (iv)  $-\frac{1}{7}, \frac{1}{7}$
- (i)  $\frac{37}{30}$  (ii)  $\frac{3}{16}$  (iii)  $\frac{1}{2}$  (iv) 27
- (i) d (ii) b (iii) d (iv) c

## Exercise 2.2

- (i)  $\frac{1}{24}$  (ii)  $\frac{4}{13}$  (iii)  $-\frac{1}{4}$  (iv)  $3\frac{7}{12}$   
(v)  $-5\frac{21}{32}$  (vi)  $-\frac{272}{279}$  (vii)  $-1\frac{29}{238}$
- (i)  $\frac{1}{9}$  (ii)  $-\frac{8}{15}$  (iii) -14 (iv)  $\frac{4}{7}$   
(v)  $-\frac{3}{14}$  (vi)  $\frac{13}{23}$
- (i)  $-5\frac{13}{15}$  (ii)  $\frac{21}{40}$  (iii)  $3\frac{7}{20}$  (iv)  $-1\frac{16}{45}$
- (i)  $-\frac{1}{26}$  (ii) 1 (iii)  $\frac{1}{19}$  (iv)  $\frac{4}{11}$   
(v)  $-1\frac{5}{33}$  (vi)  $\frac{19}{54}$  (vii)  $-\frac{5}{7}$  (viii)  $3\frac{13}{15}$   
(ix)  $-\frac{1}{2}$
- (i)  $-\frac{1}{9}$  (ii)  $2\frac{29}{45}$  (iii)  $\frac{5}{6}$  (iv)  $\frac{5}{6}$   
(v)  $2\frac{16}{21}$
- $-\frac{13}{36}$  9.  $\frac{12}{7}$  10.  $1\frac{5}{14}$
- (i) False (ii) False (iii) True (iv) True  
(v) True (vi) False

## Exercise 2.3

- (i)  $-\frac{25}{109}$  (ii) -12 (iii)  $\frac{1}{15}$  (iv) -15  
(v)  $\frac{8}{15}$  (vi) -4
- (i) -5 (ii)  $-\frac{7}{8}$  (iii)  $\frac{5}{8}$  (iv)  $-\frac{1}{10}$   
(v)  $-\frac{6}{77}$  (vi) 1
- (i)  $-\frac{5}{8}$  (ii)  $-\frac{7}{12}, \frac{11}{5}$  (iii)  $-\frac{30}{95}, -\frac{30}{95}$  (iv) 0, 0  
(v)  $-\frac{8}{9}, -\frac{10}{23}$
- (i)  $\frac{2}{5}$  (ii)  $1\frac{27}{55}$  (iii)  $1\frac{1}{50}$  (iv)  $-\frac{3}{5}$
- (i)  $\frac{1}{24}$  (ii)  $-\frac{1}{5}$  (iii)  $2\frac{2}{3}$  (iv)  $-\frac{1}{27}$   
(v)  $2\frac{23}{30}$  (vi) -49
- (i) positive (ii) negative (iii) 1, -1 (iv) 0  
(v) a (vi) 1 (vii) No

## Exercise 2.4

- (i)  $\frac{7}{5}$  or  $1\frac{2}{5}$  (ii) 0 (iii)  $-\frac{11}{13}$  (iv)  $-\frac{14}{33}$
- (i) True (ii) False (iii) False (iv) False  
(v) True (vi) False
- (i) 1 (ii) 4 (iii) -1 (iv) 0  
(v) 24 (vi)  $\frac{3}{28}$  (vii)  $-\frac{3}{98}$
- $-2\frac{2}{3}$  6.  $-\frac{5}{27}$  7.  $\frac{1}{3}$

## Mental Maths-1

- 4 2. 4 3.  $-\frac{11}{28}$  4.  $\frac{9}{20}$
- $\frac{1}{63}$  6. no 7.  $1\frac{14}{15}$  8.  $\frac{3}{7}$

## Exercise 3.1

- (i)  $\left(\frac{-2}{7}\right)^3$  (ii)  $\left(\frac{3}{11}\right)^5$  (iii)  $\left(\frac{-p}{q}\right)^7$  (iv)  $\left(\frac{x}{3}\right)^9$   
(v)  $\left(\frac{-7}{y}\right)^4$  (vi)  $\left(\frac{-3}{8}\right)^4$
- (i)  $\frac{4}{25}$  (ii)  $-\frac{1}{243}$  (iii)  $\frac{64}{125}$  (iv)  $\frac{16}{81}$   
(v)  $\frac{81}{2401}$
- (i)  $\left(\frac{-5}{9}\right)^3$  (ii)  $\left(\frac{1}{2}\right)^4$  (iii)  $\left(\frac{4}{5}\right)^2$  (iv)  $\left(\frac{-6}{7}\right)^3$   
(v)  $\left(\frac{-2}{3}\right)^3$  (vi)  $\left(\frac{-9}{5}\right)^3$
- (i)  $\frac{3}{2}$  or  $1\frac{1}{2}$  (ii)  $5\frac{4}{9}$  (iii)  $57\frac{681}{1024}$  (iv)  $1\frac{4}{13}$   
(v) 1



- (v)  $1\frac{1}{49}$  (vi) 0.15 (vii) 0.007  
 3. 32 4. 6, 234 5. 2 6. 900  
 7. 2, 42; 2, 24; 6, 36  
 8. (i) 400 (ii) 3,600 (iii) 3,600 9. 178 m  
 10. (i) 390 (ii) 900 (iii) 54

**Exercise 4.3**

1. (i) 32 (ii) 210 (iii) 29 (iv) 89  
 (v) 93 (vi) 123 (vii) 849 (viii) 987  
 (ix) 68 (x) 257 (xi) 653 (xii) 235  
 2. (i) 8 (ii) 50 (iii) 53 (iv) 4  
 (v) 153  
 3. (i) 25 (ii) 16 (iii) 10 (iv) 9  
 4. 1024, 32 5. 9801; 99; 99,856; 316  
 6. 11.32 minutes 7. 10; 210 8. 39, 4  
 9. (i) 11 (ii) 25 (iii) 29 (iv) 26  
 10. (i)  $10\sqrt{2}$  cm (ii) 12 cm 8 cm  
 11.  $2.645 \text{ m}^2$   
 12. (i) 5; 105 13. ₹ 3,180 14. 127 15. 4, 38

**Exercise 4.4**

1. (i) 0.95 (ii) 6.09 (iii) 25.011 (iv) 0.921  
 (v) 3.5 (vi) 85.21 (vii) 2.7 (viii) 0.0231  
 (ix) 1.6 (x) 0.048  
 2. (i) 4.47 (ii) 2.65 (iii) 1.73 (iv) 0.95  
 (v) 4.81 (vi) 11.19  
 3. (i) 0.001 (ii) 21.761 (iii) 2.828 (iv) 0.821  
 (v) 1.182 (vi) 5.477  
 4. 1 m 5. 72.8 cm 6. 7.2 7. 7.86  
 8. (i) 2 (ii) 2 (iii) 3  
 9. (i) 10 cm (ii) 12 cm  
 10. (i) d (ii) d (iii) b (iv) a  
 (v) c

**Mental Maths-3**

1. 12 2. 23 3. 6 2, 3, 7 and 8  
 4. 1024 5. 99,856

**Exercise 5.1**

1. (i) 1 (ii) 15,625 (iii) 19,683 (iv) 1,25,000  
 (v) 54.872 (vi)  $\frac{-1331}{216}$  (vii)  $\frac{64}{125}$  (viii)  $\frac{729}{4913}$   
 (ix)  $10\frac{37}{216}$   
 2. (iv), (vi), (vii) and (viii)  
 3. (i) 25 (ii) 24  
 4. 2 5. No, 49 (iii) 8 (iv) 45  
 6. 6 7. 9  
 8. (ii), (iii), (v) and (vi)  
 9. (i) and (vi)  
 10. (i), (ii) and (v)  
 11.  $(3)^3 = 27, (5)^3 = 125$   
 12. (i) False (ii) False (iii) True (iv) True  
 (v) True (vi) False  
 13. (i) 46,656 (ii) 74,088 (iii) 4,93,039 (iv) 5,92,704  
 (v) 11,57,625  
 14. (i)  $43 + 45 \dots\dots + 55$   
 (ii)  $133 + 135 \dots\dots + 155$   
 (iii)  $757 + 759 \dots\dots + 811$   
 15. (i) 169 (ii) 631 (iii) 2107

16. 21  
 17. (i) True (ii) True (iii) True (iv) False  
 (v) True

**Exercise 5.2**

1. (i) 5 (ii) 4 (iii) 6 (iv) 8  
 2. (i) 11 (ii) 30 (iii) 3 (iv) 25  
 (v) 26 (vi) -48 (vii) -44 (viii) -27  
 (ix) -85 (x)  $\frac{-13}{26}$  or  $\frac{-1}{2}$   
 3. (i) 3 (ii) 2 (iii) 4 (iv) 5  
 (v) 0  
 4. (i) 47 (ii) 25 (iii) 23 (iv) 33  
 (v) 30  
 5. (i)  $\frac{-4}{11}$  (ii)  $\frac{-4}{11}$  (iii)  $1\frac{1}{6}$  (iv)  $1\frac{7}{8}$   
 (v) 180 (vi) 3.2 (vii) 385 (viii) 1.1  
 (ix) 18 (x) 0.15  
 6. (i) 18 (ii) 132 (iii) 30 (iv) 20  
 (v) -120  
 7. (i) 38 (ii) -15 (iii)  $\left(\frac{20}{3}\right)^4$  (iv) 20  
 8. Do it yourself.  
 9. (i) 2.080 (ii) 2.410 (iii) 2.924 (iv) 3.362  
 (v) 4.344 (vi) 3.302 (vii) 18.283 (viii) 20.035  
 (ix) 10.132 (x) 4.412 (xi) 7.140 (xii) 20.258  
 10. 14, 21, 28 11. 2.4 m 12. 12, 24, 36  
 13. (i) 36 (ii) 1.1 (iii) 0.44 (iv) 1.36  
 (v) 26  
 14. 79.507 cu m 15. 9.4 m  
 16. (i) 170 (ii) 1  
 17. 5, 105  
 18. 9, 12 19. (i) 6 (ii) 4

**Mental Maths-4**

1. 49 2.  $216 \text{ m}^3$  3. 1 4. 55  
 5.  $\frac{5}{7}$

**Exercise 6.1**

1. (i)  $10 \times 7 + 3$  (ii)  $100 \times 3 + 10 \times 0 + 2$   
 (iii)  $100 \times 1 + 10 \times 2 + 9$  (iv)  $100 \times 2 + 10 \times 0 + 1$   
 2. (i) 76 (ii) 328 (iii)  $100(p+q) + 2$   
 3. (i) 115 (ii) 25 (iii) 62  
 4. 36 5. 53 6. 82 7. 72  
 8. 85 or 58

**Exercise 6.2**

1. (i), (iii), (iv), (vii) 2. (ii), (iii), (v), (vi) 3. (ii), (iii), (iv), (vi)  
 4. (ii), (iii), (iv), (v) 5. (i), (iii), (iv), (vi), (vii)  
 6. (i) Yes (ii) Yes (iii) Yes  
 7. (i) Yes (ii) Yes (iii) Yes  
 8. (i) 1 (ii) 2 (iii) 1 (iv) 1  
 9. (i) 4 (ii) 4 (iii) 6  
 10. 1,530; 10,890; 4,44,760  
 11. 308  
 12. (i) (a) No (b) Yes (c) No (d) Yes  
 (ii) (a) No (b) No (c) Yes (d) Yes

**Exercise 7.1**

	Terms	Numerical Coefficients
(i)	7	7
	x	1
	-x <sup>2</sup>	-1
(ii)	2m <sup>2</sup> n <sup>2</sup>	2
	-4m <sup>2</sup> n <sup>2</sup> p <sup>2</sup>	-4
(iii)	$\frac{a}{3}$	$\frac{1}{3}$
	$\frac{b}{3}$	$\frac{1}{3}$
(iv)	-ab	-1
	0.2ab	0.2
(v)	-0.4a	-0.4
	0.7b	0.7

2. (i) binomial (ii) trinomial (iii) do not fit  
 (iv) monomial (v) trinomial (vi) binomial  
 3. (i) 2 (ii) 2 (iii) 2 (iv) 4  
 4. Do it yourself

5. (i) x (ii) 7p<sup>2</sup> + pq (iii) -6xy  
 (iv) 16m<sup>2</sup> + 8m + 5 (v) 6x<sup>3</sup> - 3xy + 14  
 6. (i) 18a<sup>2</sup>b (ii) -3x (iii) 12x<sup>2</sup> - 9y - 9  
 (iv) 8p<sup>2</sup> + 7q<sup>2</sup> - 7pq (v) 5x<sup>3</sup> - 9y<sup>3</sup> - z<sup>3</sup> + 8  
 (vi) 6x<sup>2</sup>y<sup>2</sup> - 4z<sup>2</sup>  
 7. (i) 11x - y (ii) 5p<sup>2</sup> - 6q (iii) 14x<sup>2</sup> + 3z<sup>2</sup> + 1  
 (iv) 7a<sup>2</sup>b - 8a<sup>2</sup> + 3b<sup>2</sup> + 3ab<sup>2</sup>

**Exercise 7.2**

1. (i) -18x<sup>2</sup>y<sup>4</sup> (ii) -35x<sup>2</sup>y<sup>3</sup> (iii) 24xy<sup>2</sup> (iv)  $\frac{8}{27} p^3q$   
 (v)  $-\frac{2}{3} a^3b^2c^2$  (vi)  $\frac{27}{77} x^5y^2$   
 2. (i) a<sup>2</sup>b<sup>2</sup>c<sup>2</sup> (ii) -120x<sup>4</sup>y<sup>4</sup> (iii) 0  
 (iv)  $-\frac{3}{28} p^3q^5$  (v)  $-\frac{3}{40} x^2y^2z^2$   
 3. 6x -10xy 3a<sup>2</sup>b<sup>2</sup> 2x<sup>2</sup>y<sup>2</sup> -3mn<sup>2</sup>  
 24x<sup>2</sup> -40x<sup>2</sup>y 12a<sup>2</sup>b<sup>2</sup>x 8x<sup>3</sup>y<sup>2</sup> -12mn<sup>2</sup>x  
 36x<sup>2</sup>y -60x<sup>2</sup>y<sup>2</sup> 18a<sup>2</sup>b<sup>2</sup>xy 12x<sup>3</sup>y<sup>3</sup> -18mn<sup>2</sup>xy  
 30a<sup>2</sup>b<sup>2</sup>x -50a<sup>2</sup>b<sup>2</sup>xy 15a<sup>4</sup>b<sup>4</sup> 10a<sup>2</sup>b<sup>2</sup>x<sup>2</sup>y<sup>2</sup> -15a<sup>2</sup>b<sup>2</sup>mn<sup>2</sup>  
 -54x<sup>4</sup>y<sup>2</sup> 90x<sup>4</sup>y<sup>3</sup> -27x<sup>3</sup>y<sup>2</sup>a<sup>2</sup>b<sup>2</sup> -18x<sup>4</sup>y<sup>4</sup> 27x<sup>3</sup>y<sup>2</sup>mn<sup>2</sup>  
 42mn<sup>2</sup>x -70mn<sup>2</sup>xy 21mn<sup>2</sup>a<sup>2</sup>b<sup>2</sup> 14mn<sup>2</sup>x<sup>2</sup>y<sup>2</sup> -21m<sup>2</sup>n<sup>4</sup>  
 4.  $\frac{8}{3} x^2y^2z^2$  5. -4x<sup>2</sup>y<sup>2</sup>

**Exercise 7.3**

1. (i) 35x<sup>2</sup> + 25x (ii) 42a<sup>2</sup> - 42  
 (iii) 6abpq - 18pqy  
 2. (i) 2x<sup>2</sup> - 15x<sup>2</sup>y + 18y<sup>2</sup> (ii) 15y<sup>2</sup> - 43y + 8  
 (iii) x<sup>5</sup> + x<sup>3</sup> +  $\frac{1}{x^2}$  +  $\frac{1}{x}$  (iv)  $\frac{7}{2} a^2b^4 - 19ab^3 - 12b^2$   
 (v) 18x<sup>4</sup> + 8x<sup>3</sup> +  $\frac{5}{6} x^2$   
 3. (i) x<sup>3</sup> + 4x<sup>2</sup>y - 4xy<sup>2</sup> + 5y<sup>3</sup>  
 (ii) 12x<sup>2</sup> + 21x + 19xy + 7y + 5y<sup>2</sup>  
 (iii) a<sup>2</sup> - 5a<sup>3</sup> + 9a<sup>2</sup> - 10a + 14  
 (iv) 15a<sup>2</sup> + 25a +  $\frac{91}{3} ab + 45b + 6b^2$   
 (v)  $\frac{2}{5} p^4 - \frac{3}{5} p^3q + \frac{17}{15} p^2 - \frac{6}{5} pq + \frac{2}{3}$   
 (vi) a<sup>4</sup> + a<sup>2</sup>b + 2a<sup>2</sup>b<sup>2</sup> - ab<sup>3</sup> - 3b<sup>4</sup>  
 4. (i) 2x<sup>2</sup> - 3x<sup>2</sup> + 5x - 21  
 (ii) 6a<sup>3</sup> + 13a<sup>2</sup>b + 13ab<sup>2</sup> - 10a - 5b + 4b<sup>3</sup>

- (iii) 5x<sup>2</sup>y + 4x<sup>2</sup>z + 2x<sup>2</sup> - 5xy<sup>2</sup> + 5y<sup>2</sup> + 7y - 2xy + 4yz - 4xyz + 4z + 2  
 (iv) 8x<sup>4</sup> + 2x<sup>4</sup> + 8x<sup>4</sup> - x<sup>2</sup> + 5x - 1  
 (v) 30x<sup>2</sup>y + 35x<sup>2</sup>y<sup>2</sup> + 18x<sup>2</sup> + 21x<sup>2</sup>y + 18x<sup>4</sup> + 21x<sup>2</sup>y + 5x<sup>2</sup>y<sup>3</sup> + 15x<sup>2</sup>y + 3xy<sup>2</sup> + 9x + 3y<sup>2</sup> + 9  
 5. (i) a<sup>2</sup> + 10a - ab + 5b - 6b<sup>2</sup> + 21  
 (ii) 3x<sup>4</sup> + 2x<sup>3</sup> - 26x<sup>2</sup> + 34x - 21  
 (iii) 6x<sup>4</sup> + 6x<sup>2</sup>y - 6x<sup>2</sup>y<sup>2</sup> + 5x<sup>2</sup>y - 2x<sup>2</sup> + 5xy<sup>2</sup> - 2xy - 5y<sup>3</sup> + 2y<sup>2</sup>  
 (iv) 2m<sup>4</sup> + 11m<sup>3</sup> + 32m<sup>2</sup> + 44m + 21  
 (v) 4x<sup>4</sup>y<sup>2</sup> - 5x<sup>2</sup>y + x<sup>2</sup>y + x<sup>2</sup> - 4x - 5  
 (vi)  $\frac{1}{3} x^3 + \frac{2}{3} x^2y + \frac{17}{36} x^2 + \frac{1}{2} xy - \frac{4}{3} x - 3y - 1$   
 6. (i) 7p<sup>2</sup> + 2pq - 7p - 7q - 5  
 (ii) 10x<sup>3</sup> - 32x<sup>2</sup> + 19x + 35xy + 10  
 (iii) 3a<sup>2</sup> + 10a - 9 (iv) 2y<sup>2</sup> - 4y + 50  
 7. (i) 4x<sup>4</sup> + 2x<sup>2</sup>y<sup>2</sup> + 4x<sup>2</sup>y<sup>2</sup> + 2xy<sup>4</sup> (iii) 12x<sup>4</sup> - 75y<sup>4</sup>  
 (ii) 5x<sup>3</sup> + 11x<sup>2</sup>y + 2xy<sup>2</sup> 9. -7a + 32b - 41c  
 8. 4a + 14c  
 10. (a) 25x - 3y + 18z (b) 25x + 35y - 48z  
 (c) 9x + 9y - 24z (d) 54x - 13y + 27z

**Exercise 7.4**

1. (i) 9a<sup>2</sup> + 6ab + b<sup>2</sup> (ii) 16x<sup>2</sup> + 32xy + 16y<sup>2</sup>  
 (iii) 4x<sup>4</sup> + 12x<sup>2</sup>y + 9y<sup>2</sup> (iv) 25x<sup>2</sup> + 120x + 144  
 (v) 4p<sup>2</sup> - 12pq + 9q<sup>2</sup> (vi)  $\frac{4}{25} x^2 - \frac{16}{5} x + 16$   
 (vii)  $\frac{81}{16} x^2 - \frac{27}{2} xy + 9y^2$  (viii)  $\frac{1}{49} x^2 + \frac{1}{7} xy + \frac{1}{4} y^2$   
 2. (i) x<sup>2</sup> + 10x + 25 (ii) 25b<sup>2</sup> + 30b + 9  
 (iii) 16a<sup>2</sup> - 48ab + 36b<sup>2</sup>  
 (iv)  $\frac{9}{25} x^2 - \frac{6}{5} x + 1$  (v) p<sup>2</sup> + pq +  $\frac{1}{4} q^2$   
 (vi)  $\frac{a^2}{9} + \frac{9}{a^2} - 2$   
 3. (i) 49x<sup>2</sup> - y<sup>2</sup> (ii) 9a<sup>2</sup> - 25y<sup>2</sup>  
 (iii) 49x<sup>2</sup> - 81y<sup>2</sup> (iv)  $\frac{9}{25} x^2 - 16$  (v)  $36 - \frac{1}{25} x^2$   
 4. (i) 10,404 (ii) 4,489 (iii) 9,94,009 (iv) 2,46,016  
 (v) 2,496 (vi) 99.91 (vii) 9,964  
 5. (i) 7, 47 6. 16, 18  
 7 (i) 52 (ii) 2 (iii) 105  
 8. (i) 144 (ii)  $75\frac{1}{9}$  (iii) 1  
 9. (i) 1 (ii)  $\frac{9}{16}$  (iii) 2b (iv) a + b  
 10. (i) x<sup>4</sup> - y<sup>4</sup> (ii) x<sup>4</sup> - 16y<sup>4</sup> (iii) 256x<sup>4</sup> - 625y<sup>4</sup>  
 (iv)  $\frac{1}{81} a^4 - 81b^4$

**Exercise 7.5**

1. (i) 4a (ii) -18a<sup>2</sup> (iii) 7xy<sup>2</sup>z<sup>2</sup> (iv) -12x<sup>2</sup>yz  
 (v) -25m<sup>2</sup>n<sup>2</sup> (vi) 8a<sup>3</sup>c  
 2. (i) x<sup>2</sup> + 2x + 5 (ii) 12x<sup>2</sup>y<sup>3</sup> + 7xy<sup>4</sup> - 16y  
 (iii) -4a<sup>3</sup> + 3a<sup>2</sup>b<sup>3</sup> - 4a (iv) 3xy<sup>2</sup> - 16x<sup>2</sup>y<sup>2</sup> - 2xy  
 (v) 2m<sup>2</sup>n<sup>2</sup>p<sup>3</sup> + 3np - 7 (vi) 4x<sup>4</sup> - 7y - 6  
 3. (i) x + 13 (ii) 2a<sup>2</sup> + 4ab + 7b<sup>2</sup>  
 (iii) x<sup>4</sup> - x<sup>3</sup> + x<sup>2</sup> - x + 1 (iv) 5x - 3  
 4. (i) Q = 4a<sup>2</sup> + 4a + 5, R = 0  
 (ii) Q = 2y<sup>2</sup> - 2y + 3, R = 12  
 (iii) Q = 3x<sup>2</sup> + 3x + 2, R = 0  
 (iv) Q = x<sup>2</sup> - 1, R = 3x<sup>2</sup> + 11

**Mental Maths-6**

1. 25                      2. 3                      3. 143                      4. 9,991  
5. 11                      6. 66                      7. yes

**Exercise 8.1**

- (i) 1, 2, 3, 6, x, 2x, 3x, 6x,  $x^2$ ,  $2x^2$ ,  $3x^2$ ,  $6x^2$   
(ii) 1, 2, 4, 8, x, 2x, 4x, 8x, y, 2y, 4y, 8y, xy, 2xy, 4xy, 8xy,  $x^2$ ,  $2x^2$ ,  $4x^2$ ,  $8x^2$ ,  $x^2y$ ,  $2x^2y$ ,  $4x^2y$ ,  $8x^2y$   
(iii) 1, 13, p, 13p, q, 13q, pq, 13pq  
(iv) 1, 5, x, 5x, y, 5y,  $y^2$ ,  $5y^2$ , xy, 5xy,  $xy^2$ ,  $5xy^2$
- (i) 1, 3, x, 3x                      (ii) 1, 2, n, 2n  
(iii) 1, 3, 5, 15, a, 3a, 5a, 15a  
(iv) 1, 2, 3, 4, 6, 12, x, 2x, 3x, 4x, 6x, 12x, y, 2y, 3y, 4y, 6y, 12y, xy, 2xy, 3xy, 4xy, 6xy, 12xy
- (i)  $3(x^2 + 3)$                       (ii)  $5(6x - 5y)$                       (iii)  $6y(7x^2y - 6)$   
(iv)  $5x^2(x + 2y)$                       (v)  $9(6m^2 - 2mn - 3n^2)$   
(vi)  $5(a^2 + a + 3ab + 2b)$
- (i)  $(2x + 4y)(x + y)$                       (ii)  $(a + 2)(ab + 1)$   
(iii)  $(x + 3y)(4x - 6)$   
(iv)  $(x + 2y)(6x^2 + 24y^2 + 24xy - 8x - 16y + 4)$   
(v)  $(a - b)(2a^2x + 2b^2x - 4abx + 3ay - 3by - 5)$   
(vi)  $(2b - 3c)(10ab - 15ac + 2a)$
- (i)  $(x + y)(x + z)$                       (ii)  $(a - x)(b + y)$   
(iii)  $(x + 2)(x - 2)(x - 2)$                       (iv)  $(x + y)(z^2 + t^2)$   
(v)  $(x + 1)(8y + 1)$                       (vi)  $(5 - 2a)(1 + 3b)$   
(vii)  $(x + y)(x^2 + y^2 + 2xy - 3x - 3y + 4)$   
(viii)  $(y + z)(y + z)(by^2 + bz^2 + 2byz + ay + az + c)$   
(ix)  $(3a + b)(xy + 3)$                       (x)  $-7(m - n)$

**Exercise 8.2**

- (i)  $(x + 4z)(x - 4z)$                       (ii)  $(a + x + 2)(a - x - 2)$   
(iii)  $9(5a - b)(a - 5b)$                       (iv)  $(x^4 + 9)(x^2 + 3)(x^2 - 3)$   
(v)  $(a + b + z)(a + b - z)$   
(vi)  $(x^4 + y^4)(x^2 + y^2)(x + y)(x - y)$   
(vii)  $\frac{1}{36}(x + 12)(x - 12)$                       (viii)  $\frac{1}{4}(x + 8z)(x - 8z)$   
(ix)  $\frac{1}{9}(x + 12)(x - 12)$
- (i)  $(2a - 1)(2a - 1)$                       (ii)  $(5a + 3b)(5a + 3b)$   
(iii)  $(4x - 5)(4x - 5)$                       (iv)  $b^2(4a - 1)(4a - 1)$   
(v)  $(3a - 1)(3a - 1)$                       (vi)  $2(x - 2yz)(x - 2yz)$   
(vii)  $(3x - 4)(3x - 4)$                       (viii)  $(2a - 1)(2a - 1)$   
(ix)  $(5x - 4)(5x - 4)$

**Exercise 8.3**

- $(2x + 3)(2x + 1)$                       2.  $(a + 5)(a + 4)$
- $(x + 6)(x + 3)$                       4.  $(3x - 6)(x - 3)$
- $(a - 16)(a - 8)$                       6.  $(x - 31)(x - 9)$
- $(x + 4)(x - 6)$                       8.  $(x - 18)(x - 3)$
- $(z + 1)(z - 2)$                       10.  $(m + 2)(m - 6)$
- $-1(x + 3)(x - 6)$                       12.  $(a + 11)(a - 16)$
- $(3x + 2)(x + 1)$                       14.  $(x + 8)(3x - 9)$
- $(4x - 15)(x - 1)$                       16.  $(3m + 2)(m + 4)$
- $(m + 4)(m - 1)$                       18.  $(2x - 3)(x + 2)$
- $(6x + 7)(x - 1)$                       20.  $-1(z + 8)(z + 5)$
- $(2x + 3)(2x - 5)$                       22.  $(x - 12)(x - 5)$
- $(2x + a)(x - 2a)$                       24.  $(3x - 6)(x - 3)$

**Mental Maths-7**

- $(a + b)(a + c)$                       2.  $(3x + 4)(3x - 4)$
- $(4x - 3)(2x - 3)$                       4.  $(5x - 2)(3x - 4)$
- 4,000                      6.  $(3x - 2)(x - 5)$

**Exercise 9.1**

- $x = -5$                       2.  $x = 3$                       3.  $x = -10\frac{6}{8}$                       4.  $x = 2$

- $x = \frac{1}{3}$                       6.  $x = \frac{3}{2}$                       7.  $x = \frac{8}{15}$                       8.  $x = 52\frac{1}{2}$
- $x = 15$                       10.  $x = 0$                       11.  $x = -10$                       12.  $x = 7$
- $x = \frac{5}{14}$                       14.  $y = 2\frac{1}{3}$                       15.  $x = 8$
- $x = -49$                       17.  $b = 19$                       18.  $a = -1\frac{1}{2}$                       19.  $x = 2\frac{1}{5}$
- $x = -1\frac{1}{3}$                       21.  $x = -1\frac{1}{4}$                       22.  $x = 6$                       23.  $x = 2$
- $x = 11.62$                       25.  $x = -0.1$
- $a = \frac{-15}{17}$                       27.  $y = 6$

**Mental Maths-8**

- $\frac{1}{x} + \frac{1}{2x} = \frac{7}{2}$                       2.  $\frac{-1}{5}$                       3. 13, 15, 17                      4. 17
- 59                      6. 4 years, 28 years                      7. 20 cm

**Exercise 10.1**

- (i) 525%                      (ii)  $\frac{1}{8}$                       (iii) 78%                      (iv) 2.0  
(v) 7:10                      (vi) 300%
- (i) 12 l                      (ii) 120 kg                      (iii) 60 ml                      (iv) 60 m
- (i) 3200                      (ii) ₹ 70                      (iii) 500
- (i) 10%                      (ii) 200%                      (iii) 50%                      (iv) 15%
- (i) 400                      (ii) 416                      (iii) ₹ 105
- 250                      7. 40%, 60%                      8. 500                      9. 40%
- 44%                      11.  $9\frac{1}{11}\%$                       12. ₹ 200                      13.  $23\frac{1}{3}\%$
- 2,500                      15. 16500

**Exercise 10.2**

- 8%                      2. 4%                      3.  $33\frac{1}{3}\%$  gain                      4. ₹ 561
- 6%, loss                      6. 25%                      7. ₹ 9,900                      8. 23.75%
- 4.2%                      10. ₹ 1,128, ₹ 1,320, Profit = ₹ 48
- 6.67%                      12. Loss = 4%
- Loss = 4%, ₹ 24 one pencil                      14. ₹ 12,000
- ₹ 2,415                      16. ₹ 5,000                      17. ₹ 1,128, ₹ 1,320, 2%
- 1.6%                      19. Loss = 1%                      20. ₹ 14,560

**Exercise 10.3**

- (i) ₹ 1,000, 37.38%                      (ii) ₹ 6, 25%
- (i) ₹ 1312.5                      (ii) ₹ 896
- (i) ₹ 1,100                      (ii) ₹ 1,200
- 56%                      5. ₹ 9575                      6. ₹ 450
- ₹ 17,600                      8. ₹ 80                      9. ₹ 666.67                      10. ₹ 6000
- 25%                      12. 37%                      13. ₹ 930                      14. ₹ 8,000
- 25%

**Mental Maths-9**

- (i) 42.86%, loss                      (ii) 16.67%, loss                      2. ₹ 531
- (i) ₹ 306                      (ii) ₹ 290
- ₹ 25
- 8%, gain

**Exercise 11.1**

- (i) ₹ 2,979                      (ii) ₹ 512.50                      (iii) ₹ 967.50  
(iv) ₹ 4,965
- ₹ 1,400.63                      3. ₹ 2,33,280                      4. ₹ 979.2
- ₹ 1951                      6. ₹ 1,497.60                      7. ₹ 93
- ₹ 993, ₹ 93                      9. ₹ 1,293.04                      10. ₹ 2,522
- ₹ 5,088                      12. ₹ 1,655
- ₹ 659.45 (approx)                      14. ₹ 129.82

**Exercise 11.2**

- (i) ₹ 2,332.80, ₹ 332.80                      (ii) ₹ 5,788.13, ₹ 788.13  
(iii) ₹ 1,02,515.624, ₹ 30,515.62

- (iv) ₹ 57,981.68, ₹ 9,981.68 (v) ₹ 74,088, ₹ 10,088
2. ₹ 5,512.50, ₹ 812.50
3. ₹ 17,997.82, ₹ 1,997.82
4. ₹ 25,500
5. ₹ 21,296, ₹ 5,296
6. ₹ 4,965
7. ₹ 4,000
8. 2 years
9. ₹ 2,00,000
10. 3 years
11. ₹ 8,000
12. 5%
13. ₹ 24.32
14. ₹ 62,500
15. ₹ 5,84,929.28
16. 2 years
17. 3 years
18. (i) (d) (ii) (a) (iii) (a) (iv) (c)

**Exercise 11.3**

1. ₹ 40,500
2. 10,150
3. ₹ 144000
4. 28,940.6
5. ₹ 3,49,920
6. 1,73,040

**Mental Maths-10**

1. ₹ 6,656
2. C.I. =  $P \left( 1 + \frac{R}{100} \right)^n = P$
3. 2 years
4. Compound interest
5. 20%
6. ₹ 4,096

**Exercise 12.1**

1. (iii) 1/40
2. (i)  $a = 6, b = 8, c = 10, d = 18$   
(ii)  $a = 1, b = 2.5, c = 4.5, d = \frac{1}{2}$
3. 240 km
4. 176 boxes
5. ₹ 360
6. 12 cm
7. 20.25 m
8. 1.5 hrs
9. 16 minutes

10.	Time period	1st year	2nd year	3rd year
	S.I. (in ₹)	80	160	240
	C.I. (in ₹)	80	166.40	259.71

11. (i)  $15 \times 10^8$  (ii)  $3.6 \times 10^8$
12. ₹ 1,800, ₹ 2,520, ₹ 4,680
13. (a) 12 km (b) 360 cm
14. (i) d (ii) c

**Exercise 12.2**

1. (iii)
2.  $l = 10, m = 3, n = 12$
3. 5 km/hr
4. 5
5. 9
6. 20 days
7. 12
8. 65
9. 30 kg
10. 33 days

**Exercise 12.3**

1. 6 days
2.  $2\frac{8}{11}$  hours
3.  $8\frac{2}{5}$  days
4. 14 hours
5.  $8\frac{4}{7}$  days
6. 9 days
7. 24 hours
8.  $11\frac{3}{7}$  days
9.  $7\frac{1}{2}$  days
10. 48 hours

11. A, B and C → 10 days, A → 30 days, B → 20 days, C → 60 days

12.  $8\frac{4}{7}$  hours
13. 2 hours
14.  $8\frac{4}{37}$  days
15. 20 days
16. (i) d (ii) c

**Mental Maths-11**

1. 49 m
2. 16 days
3. 19 hours
4. 3 hours
5. 3 bags

**Exercise 13.1**

1. 105°
2. (i) 130° (ii) 85°
3. 89°, 89°
4. 98°, 144°
5. Regular pentagon
6. No, because the sum of the angles of a quadrilateral is 360°.

12. (i) 36°, 54°, 126°, 144° (ii) - (iii) Do it yourself
13. (i) diagonal (ii) 100 (iii) 240
- (iv) 360° (v) 100
14. Kite
15. (i) (d) (ii) (d) (iii) (c) (iv) (a)

**Exercise 13.2**

1.  $m\angle P = m\angle R = 120^\circ, m\angle Q = 60^\circ$
2. Trapezium,  $\angle BLM = 105^\circ, \angle CML = 105^\circ$
3. 22 cm
4. 80°, 100°, 80°, 100°
5. 46 cm, 36 cm, 46 cm, 36 cm
6. Length = 6 cm, breadth = 4 cm
7.  $\angle BCD = 75^\circ, \angle ADC = 105^\circ$
8. 70°, 110°, 70°, 110°
10. 16 cm
11. Length = 21 cm, breadth = 15 cm
12. Length = 21 cm, breadth = 15 cm
14. 60°, 120°, 60°, 120°
16. 8 cm
17.  $\angle RPS = \angle QRS = 45^\circ$
18. 18°
19. 60°
20. (i) 35° (ii) 55° (iii) 35°
21. 21.21 cm
22. 32
23. Do yourself
24. (i) c (ii) a (iii) c (iv) c

**Mental Maths-12**

1. 10 cm
2. 36°
3. 20 cm, 12 cm
4. 135°
5. 6 cm

**Mental Maths-13**

1. Three: two sides and an angle
2. 10 cm
3. 2
4. HO + OP
5. 5

**Exercise 15.1**

1.	F	V	E	F+V	E+2
(i)	6	8	12	14	14
(ii)	6	8	12	14	14
(iii)	4	4	6	8	8
(iv)	6	8	12	14	14
(v)	5	5	8	10	10

2. (i) 8 (ii) 4 (iii) 30

3. 6

4. 14

5. (i) edges (ii) vertex (iii) tetrahedron

(iv)  $F = E + V = 2$

**Exercise 15.2**

1. (i) cylinder (ii) cylinder (iii) cuboid (iv) cuboid
- (v) cylinder (vi) cuboid
2. (i) cube (ii) triangular prism (iii) triangular prism
- (iv) square pyramid (v) cube (vi) hexagonal pyramid
3. Do it yourself
4. iii
5. Do it yourself
6. (i) Front, Top, Side, (ii) Side, Top, Front
- (iii) Top, Front, Side

**Exercise 15.3**

1. (i)-(iv) Do it yourself
2. (i) Street A (ii) Street C (iii) Link road (iv) River
3. and 4 Do it yourself

**Mental Maths-14**

1. 6, 8, 12
2. F denotes faces, E denotes edges and V denotes vertices
3. Two

**Exercise 16.1**

1. 174 sq cm
2. 132 sq m
3. 247.5 sq cm
4. 180 cm<sup>2</sup>
5. 6 cm
6. 36 cm
7. 36 cm, 24 cm
8. 216 sq cm
9. 56 sq cm
10. 94 cm
11. 20

**Exercise 16.2**

- Men  
1. 252 sq cm    2. 227.2 sq m    3. 900 sq cm  
4. 13 sq m    5. 70 sq cm    6. 614 sq cm  
5. 7. 60 sq cm    8. 11,000 sq cm  
Exe 9. 6,300 sq m    10. (i) 520 sq cm    (ii) 275 sq cm

**Mental Maths-15**

1. 1. 6 cm    2. 108 sq cm    3. 24 cm    4. 152 sq cm  
5. 40 sq cm

**Exercise 17.1**

1. (i) Volume =  $180 \text{ cm}^3$ , total surface area =  $216 \text{ cm}^2$   
(ii) Volume =  $96 \text{ cm}^3$ , total surface area =  $160 \text{ cm}^2$   
(iii) Volume =  $770 \text{ cm}^3$ , total surface area =  $514 \text{ cm}^2$   
(iv) Volume =  $3,375 \text{ cm}^3$ , total surface area =  $1,785 \text{ cm}^2$   
2. (i) Volume =  $1,000 \text{ cm}^3$ , total surface area =  $600 \text{ cm}^2$   
(ii) Volume =  $91.125 \text{ dm}^3$ , total surface area =  $121.5 \text{ dm}^2$   
(iii) Volume =  $46.656 \text{ cm}^3$ , total surface area =  $77.76 \text{ cm}^2$   
(iv) Volume =  $512 \text{ cm}^3$ , total surface area =  $384 \text{ cm}^2$   
3. 10 cm    4.  $1,734 \text{ cm}^2$     5.  $2,744 \text{ cm}^3$     6. cube  
7. total surface area =  $370.6 \text{ cm}^2$ , lateral surface area =  $270.6 \text{ cm}^2$   
8. 20.78 cm    9. 2 cm    10.  $48,000 \text{ cm}^3$     11.  $48 \text{ cm}^3$   
12.  $2,100 \text{ cm}^2$     13. ₹ 720    14. 450  
15.  $30,700 \text{ cm}^2$ , ₹ 15,350    16. 20,000  
17. 50,00,000 litres    18.  $522 \text{ cm}^2$     19.  $27,000 \text{ cm}^3$ ,  $59,400 \text{ cm}^3$   
20. 6.25 cm    21. 8    22.  $2,197 \text{ cm}^3$     23. 3.125 m  
24.  $9,261 \text{ cm}^5$     25. 12 cm

**Exercise 17.2**

1. (i) Volume =  $9,702 \text{ cm}^3$ , lateral surface area =  $924 \text{ cm}^2$ ,  
total surface area =  $3,696 \text{ cm}^2$   
(ii) Volume =  $462 \text{ m}^3$ , lateral surface area =  $264 \text{ m}^2$ ,  
total surface area =  $341 \text{ m}^2$   
(iii) Volume =  $5,544 \text{ cm}^3$ , lateral surface area =  $528 \text{ cm}^2$ ,  
total surface area =  $3,300 \text{ cm}^2$   
(iv) Volume =  $4,158 \text{ dm}^3$ , lateral surface area =  $792 \text{ dm}^2$ ,  
total surface area =  $1,485 \text{ dm}^2$   
2. 808.5  $\text{m}^3$     3. 9 : 16    4. ₹ 12,705    5. 3 metre  
6. 866.25  $\text{m}^3$ , ₹ 2,475  
7. Volume =  $20,790 \text{ cm}^3$ , lateral square area =  $3,960 \text{ cm}^2$   
8. radius = 10.86 cm    9.  $1,508.57 \text{ m}^3$   
10.  $2,136.64 \text{ m}^2$     11. 646.8 g    12.  $3,080 \text{ cm}^3$   
13.  $26.4 \text{ m}^2$     14. 2,280.72 m    15. cube,  $259 \text{ cm}^2$   
16. (i) (a)    (ii) (b)    (iii) (b)    (iv) (c)  
(v) (d)

**Mental Maths-16**

- Exe 1.  $6a^2 \text{ cm}^2$     2.  $384 \text{ cm}^2$     3.  $188.57 \text{ cm}^2$     4. 640 coins  
3.  
5.  
7.  
9.  
11. (c)  $A = 16 \text{ sq unit}$