

Read India Mathematics Class-5

1.

Revision

1. (a) Twenty four thousand five hundred forty two
(b) Forty three thousand seven hundred twenty one
(c) Seventy nine thousand four hundred fifty
(d) Eight lakh fifty four thousand six hundred seventy nine
2. (a) 87438 (b) 45009 (c) 59275 (d) 325109
3. (a) 67 (b) 24 (c) 36 (d) 29 (e) 45 (f) 79 (g) 96 (h) 94
4. (a) XXXIX (b) LXIV (c) LXXII (d) XXIV (e) XCIX
(f) LXXXVI (g) LXXVII (h) XCI
5. (a) 5000; 5 (b) 400000 ; 4 (c) 6000 ; 6 (d) 700 ; 7
6. (a) $70000 + 0 + 500 + 40 + 2$
(b) $500000 + 0 + 5000 + 300 + 70 + 4$
(c) $700000 + 20000 + 9000 + 500 + 20 + 5$
(d) $3000000 + 200000 + 40000 + 9000 + 800 + 70 + 6$
7. (a) 357387 (b) 1400948 (c) 3979305 (d) 5050505
8. (a) 91162 (b) 74284 (c) 54783 (d) 428912
9. (a) 73066 (b) 76055 (c) 42995 (d) 250632
10. (a) 6725000 (b) 8354900 (c) 73730400 (d) 148500
(e) 6525000 (f) 96000

11. (a)

$$\begin{array}{r} 42567 \\ \times 12 \\ \hline 85134 \\ 42567 \times \\ \hline 510804 \end{array}$$

(b)

$$\begin{array}{r} 7298 \\ \times 217 \\ \hline 51086 \\ 7298 \times \\ \hline 14596 \times \times \\ \hline 1583666 \end{array}$$

$$\begin{array}{r}
 \text{(c)} \quad 3948 \\
 \times 1405 \\
 \hline
 19740 \\
 0000 \times \\
 15792 \times \times \\
 3948 \times \times \times \\
 \hline
 5546940
 \end{array}$$

$$\begin{array}{r}
 \text{12. (a)} \quad 23 \overline{) 8456} \quad (367 \\
 \underline{-69} \\
 155 \\
 \underline{-138} \\
 176 \\
 \underline{-161} \\
 15 \\
 \\
 Q = 367 \\
 R = 15
 \end{array}$$

$$\begin{array}{r}
 \text{(b)} \quad 15 \overline{) 7342} \quad (489 \\
 \underline{-60} \\
 134 \\
 \underline{-120} \\
 142 \\
 \underline{-135} \\
 7 \\
 \\
 Q = 489 \\
 R = 7
 \end{array}$$

$$\begin{array}{r}
 \text{(c)} \quad 19 \overline{) 17042} \quad (896 \\
 \underline{-152} \\
 184 \\
 \underline{-171} \\
 132 \\
 \underline{-114} \\
 18 \\
 \\
 Q = 896 \\
 R = 18
 \end{array}$$

$$\begin{array}{r}
 \text{(b)} \quad 35 \overline{) 34565} \quad (987 \\
 \underline{-315} \\
 306 \\
 \underline{-280} \\
 265 \\
 \underline{-245} \\
 20 \\
 \\
 Q = 987 \\
 R = 20
 \end{array}$$

$$\begin{array}{r}
 \text{13. (a)} \quad 7 \boxed{5} 5 \\
 4 \ 2 \ 3 \ \boxed{3} \\
 + \ 1 \ 3 \ \boxed{2} \ 3 \\
 \hline
 \boxed{6} \ 3 \ 1 \ 1
 \end{array}$$

$$\begin{array}{l}
 5 + \boxed{3} + 3 = \overbrace{11}^{\text{carry}} \\
 1 + \boxed{5} + 3 + \boxed{2} = \overbrace{11}^{\text{carry}} \\
 1 + 7 + 2 + 3 = \overbrace{13}^{\text{carry}} \\
 1 + 4 + 1 = 6
 \end{array}$$

$$\begin{array}{r}
 \text{(b)} \boxed{3} \ 7 \ 5 \ 6 \ 7 \\
 \phantom{\text{(b)}} \phantom{\boxed{3}} \ 8 \ \boxed{4} \ 7 \ 5 \\
 \phantom{\text{(b)}} \phantom{\boxed{3}} \ 1 \ 9 \ \boxed{3} \ 2 \\
 \hline
 4 \ \boxed{7} \ 9 \ 7 \ 4
 \end{array}$$

$$\begin{array}{l}
 7 + \boxed{5} + 2 = 14 \text{ carry} \\
 1 + \boxed{6} + 7 + \boxed{3} = 17 \text{ carry} \\
 1 + 5 + \boxed{4} + 9 = 19 \text{ carry} \\
 1 + \boxed{3} = 4
 \end{array}$$

$$\begin{array}{r}
 \text{(c)} \ 6 \ \boxed{8} \ 8 \ 9 \ 5 \\
 \phantom{\text{(c)}} \ 4 \ \boxed{3} \ 2 \ 5 \\
 \phantom{\text{(c)}} \ 3 \ 7 \ 0 \\
 \phantom{\text{(c)}} \ 3 \ 5 \ \boxed{0} \ 6 \\
 \hline
 \boxed{7} \ 7 \ 1 \ 0 \ 6
 \end{array}$$

$$\begin{array}{l}
 5 + 5 + 0 + 6 = 16 \text{ carry} \\
 1 + 9 + 2 + 7 + \boxed{1} = 20 \text{ carry} \\
 2 + 8 + \boxed{3} + 3 + 5 = 21 \text{ carry} \\
 2 + \boxed{8} + 4 + 3 = 17 \text{ carry} \\
 1 + \boxed{6} = 7
 \end{array}$$

14. (a) $(3254 - 1279) + 8458$

$$1975 + 8458 = 10433$$

(b) $7268 - 9432 + (8235 \div 5) + 4231$

$$7268 - 9432 + 1647 + 4231$$

$$(7268 + 1647 + 4231) - 9432$$

$$13146 - 9432 = 3714$$

(c) $13 + (6 \div 3) + (6 \times 4)$

$$13 + 2 + 24 = 39$$

15. (a) 12, $12 \times 2 = 24$; $12 \times 3 = 36$, $12 \times 4 = 48$

(b) 17, $17 \times 2 = 34$; $17 \times 3 = 51$; $17 \times 4 = 68$

(c) 25, $25 \times 2 = 50$; $25 \times 3 = 75$; $25 \times 4 = 100$

(d) 34, $34 \times 2 = 68$; $34 \times 3 = 102$; $34 \times 4 = 136$

16. (a) 14 and 20

$$1 \times 14$$

$$1 \times 20$$

$$2 \times 7$$

$$2 \times 10$$

$$4 \times 5$$

$$1, \textcircled{2}, 7, 14$$

$$1, \textcircled{2}, 4, 5, 10, 20$$

$$\text{HCF} = 2$$

(b) 13 and 26

$$1 \times 13$$

$$1, \textcircled{13}$$

$$1 \times 26$$

$$2 \times 13$$

$$1, 2, \textcircled{13}, 26$$

$$\text{HCF} = 13$$

| | | |
|-----------------------------------|--------------------------------|-----------------------------------|
| (c) 12 | 16 | 18 |
| 1×12 | 1×16 | 1×18 |
| 2×6 | 2×8 | 2×9 |
| 3×4 | 4×4 | 3×6 |
| $1, \textcircled{2}, 3, 4, 6, 12$ | $1, \textcircled{2}, 4, 8, 16$ | $1, \textcircled{2}, 3, 6, 9, 18$ |

$$\text{HCF} = 2$$

| | |
|-------------------------------------|---|
| (d) 15 | 40 |
| 1×15 | 1×40 |
| 3×5 | 2×20 |
| | 4×10 |
| | 5×8 |
| $1, 3, \textcircled{5}, 15$ | $1, 2, 4, \textcircled{5}, 8, 10, 20, 40$ |
| 50 | |
| 1×50 | |
| 2×25 | |
| 5×10 | |
| $1, 2, \textcircled{5}, 10, 25, 50$ | |

$$\text{HCF} = 5$$

17. (a)

| | |
|---|--------|
| 2 | 10, 12 |
| 2 | 5, 6 |
| 5 | 5, 3 |
| 3 | 1, 3 |

$$= 2 \times 2 \times 5 \times 3$$

$$\text{LCM} = 60$$

(b)

| | |
|---|--------|
| 3 | 15, 30 |
| 5 | 5, 10 |
| 2 | 1, 2 |
| | 1, 1 |

(c)

| | |
|---|------------|
| 2 | 15, 20, 40 |
| 2 | 3, 4, 8 |
| 5 | 3, 2, 4 |
| 3 | 3, 1, 2 |
| | 3, 1, 1 |
| | 1, 1, 1 |

$$\begin{aligned} \text{LCM} &= 3 \times 5 \times 2 \\ &= 30 \end{aligned}$$

$$\begin{aligned} \text{LCM} &= 5 \times 2 \times 2 \times 2 \times 3 \\ &= 120 \end{aligned}$$

| | | | |
|-----|---|------------|---|
| (d) | 2 | 12, 24, 40 | $= 2 \times 2 \times 2 \times 3 \times 5$ $\text{LCM} = 120$ |
| | 2 | 6, 12, 20 | |
| | 2 | 3, 6, 10 | |
| | 3 | 3, 3, 5 | |
| | 5 | 1, 1, 5 | |
| | | 1, 1, 1 | |

18. (a) $\frac{2}{7} + \frac{5}{7} + \frac{3}{7} = \frac{2+5+3}{7} = \frac{10}{7}$

(b) $\frac{5}{19} + \frac{3}{19} + \frac{4}{19} = \frac{5+3+4}{19} = \frac{12}{19}$

(c) $2\frac{3}{8} + 1\frac{4}{8} + \frac{3}{8} = \frac{19}{8} + \frac{12}{8} + \frac{3}{8} = \frac{34}{8}$

(d) $2\frac{3}{5} + 1\frac{7}{10} + 2\frac{3}{15} = \text{LCM} = 30$

$$\begin{aligned} &\frac{13}{5} + \frac{17}{10} + \frac{33}{15} \\ &= \frac{78}{30} + \frac{51}{30} + \frac{66}{30} = \frac{195}{30} = \frac{39}{6} \end{aligned}$$

19. (a) $0.5 = \frac{5}{10}$ (b) $0.09 = \frac{9}{100}$

(c) $2.034 = \frac{2034}{1000}$ (d) $3.7 = \frac{37}{10}$

(e) $4.05 = \frac{405}{100}$ (f) $6.055 = \frac{6055}{1000}$

20. (a) $20 \times \frac{1}{100} = \frac{1}{5} = 0.02$

(b) $425 \times \frac{1}{1000} = \frac{425}{1000} = \frac{85}{200} = \frac{17}{100} = 0.17$

(c) $35 \times \frac{1}{100} = \frac{35}{100} = \frac{7}{20}$

$$(d) 380 \times \frac{1}{1000} = \frac{380}{1000} = \frac{38}{100} = 0.38$$

21. (a) equilateral

(b) isosceles

(c) scalene

22. (a) Vertex = X, Y, Z (c) Vertex = P, Q, R

arms = XY, YZ arms = PQ, QR

(b) Vertex = A, B, C

arms = AB, BC

23. (a) 90°

(d) 180°

(b) 90°

(e) rectangle

(c) 90°

(f) ray

24. (a) $\frac{2}{11}, \frac{8}{11}, \frac{4}{11}, \frac{3}{11} = \frac{2}{11}, \frac{3}{11}, \frac{4}{11}, \frac{8}{11}$

(b) $\frac{17}{19}, \frac{2}{19}, \frac{5}{19}, \frac{10}{19} = \frac{2}{19}, \frac{5}{19}, \frac{10}{19}, \frac{17}{19}$

(c) $\frac{1}{8}, \frac{1}{5}, \frac{1}{3}, \frac{1}{6} = \frac{1}{8}, \frac{1}{6}, \frac{1}{5}, \frac{1}{3}$

(d) $\frac{3}{8}, \frac{2}{9}, \frac{1}{11}, \frac{7}{15}$

| | | | | |
|----|---|---|----|----|
| 2 | 8 | 9 | 11 | 15 |
| 2 | 4 | 9 | 11 | 15 |
| 2 | 2 | 9 | 11 | 15 |
| 3 | 1 | 9 | 11 | 15 |
| 3 | 1 | 3 | 11 | 5 |
| 5 | 1 | 1 | 11 | 5 |
| 11 | 1 | 1 | 11 | 1 |
| | 1 | 1 | 1 | 1 |

$$\text{LCM} = 2 \times 2 \times 2 \times 3 \times 3 \times 5 \times 11$$

$$= 3960$$

$$\frac{3 \times 495}{8 \times 495} = \frac{1485}{3960}$$

$$\frac{2 \times 440}{9 \times 440} = \frac{880}{3960}$$

$$\Rightarrow \frac{1 \times 360}{11 \times 360} = \frac{360}{3960}$$

$$\Rightarrow \frac{1}{3} \times \frac{1320}{1320} = \frac{1320}{3960}$$

$$\Rightarrow \frac{1}{11}, \frac{2}{9}, \frac{1}{3}, \frac{3}{8}$$

25. (a) 99999
 (b) 100000
 (c) 0
 (d) $Q = 97654$, $S = 45679$

26. $203009 - 67485 = 135524$

27. Price of shirt = ₹ 1050.50

Price of Jeans = ₹ 2148.35

Price of Top = ₹ 874.95

$$\underline{\quad 4074.00 \quad}$$

Money given to shopkeeper 5000

$$\underline{-4074}$$

Money left with Kalpana = ₹ 926

28. Cost of 6 chocolates ₹ 94.26

Cost of 1 chocolate $94.26 \div 6$

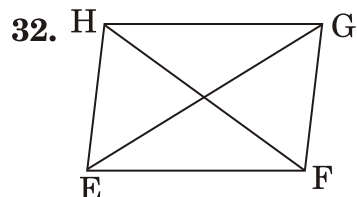
$$= ₹ 15.71$$

29. Write sold to the customers—

$$\begin{array}{r} 25 \text{ m} \quad 47 \text{ cm} \\ + 125 \text{ m} \quad 39 \text{ cm} \\ \hline 150 \text{ cm} \quad 86 \text{ cm} \end{array}$$

30.
$$\begin{array}{r} 100 \text{ l} \quad 000 \text{ ml} \\ - 45 \text{ l} \quad 375 \text{ ml} \\ \hline 54 \text{ l} \quad 625 \text{ ml} \end{array}$$

31. 7 : 07 a.m seminar started
 2 : 47 Time seminar lasted for.
 9 : 54 am. seminar ends.



Sides = EF, FG, GH, HE
 Diagonals = EG, FH

33. Radius = 12 $d = 12 \times 2 = 24 \text{ cm}$

34. $D = 16 \text{ cm}$; Radius = $\frac{16}{2} = 8 \text{ cm}$

35. (a) $5 + 4 + 6 + 3 + 8 = 26 \text{ cm}$

(b) $4 + 3 + 4 + 1 + 3 + 5 + 1 = 21 \text{ cm}$

2.

Roman Numerals

Exercise 2.1

1. (a) $85 = 50 + 10 + 10 + 10 + 5$
 $= \text{LXXXV}$
- (b) $194 = 100 + (100 - 10) + (5 - 1)$
 $= \text{CXCIV}$
- (c) $236 = 100 + 100 + 10 + 10 + 10 + (5 + 1)$
 $= \text{CCXXXVI}$
- (d) $374 = 100 + 100 + 100 + 50 + 10 + 10 + (5 - 1)$
 $= \text{CCCLXXIV}$
- (e) $486 = (500 - 100) + 50 + 10 + 10 + 10 + (5 + 1)$
 $= \text{CDLXXXVI}$
- (f) $299 = 100 + 100 + (100 - 10) + (10 - 1)$
 $= \text{CCXCIX}$
- (g) $489 = (500 - 100) + 50 + 10 + 10 + 10 + (10 - 1)$
 $= \text{CDLXXXIX}$
- (h) $495 = (500 - 100) + (100 - 10) + 5$
 $= \text{CDXCV}$
- (i) $366 = 100 + 100 + 100 + 50 + 10 + 5 + 1$
 $= \text{CCCLXVI}$
- (j) $277 = 100 + 100 + 50 + 10 + 10 + 5 + 1 + 1$
 $= \text{CCLXXVII}$
2. (a) $\text{LXXII} = 50 + 10 + 10 + 1 + 1 = 72$
- (b) $\text{XCVIII} = (100 - 10) + 5 + 1 + 1 + 1 = 98$
- (c) $\text{CXLVI} = 100 + (50 - 10) + 5 + 1 = 146$

- (d) $CCCXCIX = 100 + 100 + 100 + (100 - 10) + (10 - 1)$
 $= 300 + 90 + 9 = 399$
- (e) $XLVIII = (50 - 10) + 5 + 1 + 1 + 1 = 48$
- (f) $CCLXVII = 100 + 100 + 50 + 10 + 5 + 1 + 1 = 267$
- (g) $CCXXX = 100 + 100 + 10 + 10 + 10 = 230$
- (h) $CCCXIII = 100 + 100 + 100 + 10 + 3 = 313$
- (i) $CDXXXVI = (500 - 100) + 10 + 10 + 10 + 5 + 1$
 $= 400 + 30 + 6 = 436$
- (j) $CDXXIV = (500 - 100) + 10 + 10 + (5 - 1) = 424$
3. (a) $XC (90) \leq CX (110)$
- (b) $CD (400) \geq 309$
- (c) $CXLIX (149) < CLXXXIX (189)$
- (d) $LVIII (58) < LXX (70)$
- (e) $CCLIX (259) \geq CCXLI (241)$
- (f) $CDXL (440) < CDLX (460)$
4. b, c, e, f
5. (a) C, L, X, D = 100, 50, 10, 500
X, L, C, D
- (b) XLII, XXXII, XXXIV, XCIX
42, 32, 34, 99
 \Rightarrow XXXII, XXXIV, XLII, XCIX
- (c) CDIV, CDVI, CDI, CDV
94, 96, 91, 95
CDI, CDIV, CDV, CDVI
- (d) CCCIX, CCXII, CCXXXIV, CCCXXXIX
309, 212, 234, 339
CCXII, CCXXXIV, CCCIX, CCCXXXIX
6. (a) LXXXVII, LXXIX, LXXXIX, LXXXVIII
87, 79, 89, 88
LXXXIX, LXXXVIII, LXXXVII, LXXIX
- (b) 222, 329, 332, 338
CCCXXXVIII, CCCXXXII, CCCXXIX, CCXXII

- (c) 39, 38, 90, 40
XC, XL, XXXIX, XXXVII
(d) 91, 95, 103, 48
CIII, XCV, XCI, XLVIII

 **MCQ's**

1. (c) M 2. (b) V 3. (d) $19 + 29 = 48 = \text{XLVIII}$ 4. (a) 7

 **Mental Math**

1. V, L, D
2. L, C
3. D, M

3.

Larger Numbers

Exercise 3.1

1. (a) Five crore forty five lakh thirty two thousand seven hundred twenty nine.
(b) Seventy two crore thirty five lakh sixty four thousand seven hundred eighty five
(c) Thirty nine crore forty nine lakh eighty thousand sixty four
(d) Forty crore fifty lakh sixty thousand seven hundred ninety
(e) Fifty crore six lakh seven thousand five hundred ninety
2. (a) 7,00,69,336 (b) 85,22,33,444 (c) 61,31,55,342
(d) 66,66,60,066 (e) 45,00,00,901
3. (a) $50,00,00,000 + 5,00,00,000 + 70,00,000 + 6,00,000 + 40,000 + 2,000 + 300 + 20 + 1$
(b) $7,00,00,000 + 30,00,000 + 5,00,000 + 60,000 + 2,000 + 900 + 40 + 8$

- (c) $40,00,00,000 + 6,00,00,000 + 80,00,000 + 5,00,000 + 70,000 + 9000 + 300 + 40 + 2$
- (d) $50,00,00,000 + 9,00,00,000 + 30,00,000 + 4000 + 400 + 9$
4. (a) 99,99,99,999 (b) 30,60,30,405 (c) 5,07,03,568
(d) 85,90,87,905
5. (a) 70000000 (b) 700000 (c) 700000000 (d) 70000
6. (a) Eight hundred fifty six million seven hundred twenty nine thousand four hundred twenty eight
(b) Thirty four billion four hundred twenty five million six hundred seventy two thousand nine hundred forty eight
(c) Four billion three hundred fifty six million five hundred forty thousand four hundred nine
(d) Seven billion four hundred fifty three million nine hundred ninety six thousand two hundred forty four
(e) Nine hundred thirty seven million two hundred sixty eight thousand five thousand five hundred sixty four
7. (a) 39,439,055 (b) 183,200,085 (c) 34,001,200,004
(d) 41,365,247 (e) 4,003,006,007
8. (a) 9,000,000 (b) 900 (c) 9,000,000,000
(d) 900,000,000
9. (a) 1000 (b) 1000 (c) 100 (d) 1000 (e) 72409809000
(f) 60805390399

Exercise 3.2

1. (a) $>$ (b) $<$ (c) $<$ (d) $=$ (e) $<$ (f) $<$
2. (a) 77777; 498456; 777867; 3845671
(b) 4843627; 7584372; 8674542; 9867548
(c) 1936856; 9367839; 10450063; 91032401
(d) 1948356; 2537928; 5368435; 7235624

3. (a) 45600007; 4560700; 4560007; 456007
 (b) 206042597; 42791008; 2345675; 2536725
 (c) 36517942; 22791008; 20604259; 4351270
 (d) 91032401; 10540603; 9368516; 9367839
4. Smallest number Greatest number
 (a) 204579 9754320
 (b) 103458 854310
 (c) 3045678 8765430
 (d) 10234579 97543210
5. 123456789, 987654321, 987654321 is greater than 123456789
6. Greatest digit : 87654320; Smallest digit : 20345678
7. Smallest digit : 1000235; Greatest digit : 5553210

 **MCQ's**

1. 9999999 Greatest seven digit no.
 + 999999 Greatest 6 digit no.
 (b) 10999998
2. (a) one place 3. (b) 8 4. (c) 900009000
5. (d) 90090090

 **Mental Math**

1. (a) Ten thousands (b) 10 crores (c) 10 lakhs
2. (a) 6,36,821 (b) 68,59,759 (c) 5,65,40,009

4.

**Operations of
Larger Numbers**

Exercise 4.1

1. (a)
$$\begin{array}{r} 356742 \\ + 748993 \\ \hline 1105735 \end{array}$$
- (b)
$$\begin{array}{r} 6743547 \\ + 2595674 \\ \hline 9339221 \end{array}$$

$$\begin{array}{r} \text{(c)} \quad 546787 \\ 4986410 \\ + \quad 67435 \\ \hline 5600632 \end{array}$$

$$\begin{array}{r} \text{(d)} \quad 90806054 \\ 1434548 \\ + \quad 729843 \\ \hline 92970445 \end{array}$$

$$\begin{array}{r} \mathbf{2.} \text{ (a)} \quad 6754371 \\ + 2843596 \\ \hline 9597967 \end{array}$$

$$\begin{array}{r} \text{(b)} \quad 8473279 \\ + 1748381 \\ \hline 10221660 \end{array}$$

$$\begin{array}{r} \text{(c)} \quad 7657984 \\ 874381 \\ + \quad 5799 \\ \hline 8538164 \end{array}$$

$$\begin{array}{r} \text{(d)} \quad 8459678 \\ 998743 \\ + 987653 \\ \hline 10446074 \end{array}$$

$$\begin{array}{r} \mathbf{3.} \text{ (a)} \quad 88567443 \\ 222343 \\ + \quad 56757 \\ \hline 88846543 \end{array}$$

$$\begin{array}{r} \text{(b)} \quad 988998 \\ 111444 \\ + 555555 \\ \hline 1655997 \end{array}$$

$$\begin{array}{r} \mathbf{4.} \text{ (a)} \quad \begin{array}{cccc} \textcircled{1} & \textcircled{1} & \textcircled{1} & \textcircled{1} \\ 5 & 7 & 4 & \boxed{5} & 4 \\ + & 8 & \boxed{8} & 7 & 5 & 9 \\ \hline 1 & 4 & 6 & 2 & 1 & 3 \end{array} \end{array}$$

$$\begin{array}{r} \text{(b)} \quad \begin{array}{cccc} 5 & 2 & \boxed{3} & 8 & 7 \\ & 2 & \boxed{3} & 4 & 3 & 2 \\ + & 3 & 5 & 3 & \boxed{3} & 8 \\ \hline 1 & 1 & 1 & 1 & 5 & 7 \end{array} \end{array}$$

$$\begin{array}{r} \mathbf{5.} \text{ (a)} \quad 960587 \\ - 380594 \\ \hline 579993 \end{array}$$

$$\begin{array}{r} \text{(b)} \quad 9784351 \\ - 489674 \\ \hline 9294677 \end{array}$$

$$\begin{array}{r} \text{(c)} \quad 969696 \\ - 484848 \\ \hline 484848 \end{array}$$

$$\begin{array}{r} \text{(d)} \quad 10050605 \\ - 128950 \\ \hline 9921655 \end{array}$$

$$\mathbf{6.} \text{ (a)} \quad 94957 - 823456 + 904548$$

$$(94957 + 904548) - 823456$$

$$999505 - 823456$$

$$= 176049$$

$$(b) (7676767 + 242424) - 353535$$

$$7919191 - 353535$$

$$= 7565656$$

$$(c) 8989674 - 7438675 + 27938044$$

$$(8989674 + 27938044) - 7438675$$

$$= 29489043$$

Exercise 4.2

1. No. of persons visited zoo in Ist year = 3745998

No of persons visited zoo in IInd year = 5674344

Total no. of person visited zoo

$$= 3745998 + 5674344 = 9420342 \text{ persons}$$

2. No. of men in the city 5674325

No. of women in the city 2256742

No. of children + 2356899

Total population of the city 10287966

3. No. of toys produced 7645344

No. of toys sold - 5867428

No. of toys left unsold 1777916 toys

4. 6 8 3 3 7 8 7 9

 - 4 3 7 6 8 3 1 4

2 4 5 6 9 5 6 5

6. 7 9 3 0 0 3 1 4

 - 3 4 4 9 8 4 2 7

4 4 8 0 1 8 8 7

5. 9 0 5 6 3 4 4

 - 8 5 3 6 7 4 2

5 1 9 6 0 2

7. 1 4 2 3 6 7 4 2 1

 - 3 5 4 4 7 8 0

1 3 8 8 2 2 6 4 1

| | |
|--|----------------------------|
| 8. Population of city | 3 2 5 6 7 4 8 |
| No. of Females | <u>- 6 2 5 7 4 3</u> |
| No. of males | <u>2 6 3 1 0 0 5</u> males |
| 9. No. of votes of I st candidate | 2 7 4 2 3 8 5 |
| No. of votes of II candidate | 2 8 1 4 1 2 9 |
| No. of votes of III candidate | + 3 5 3 6 7 4 8 |
| Total no. of votes | <u>9 0 9 3 2 6 2</u> |

10. Money in Preveen a/c = ₹ 34456980

$$\begin{aligned} \text{Money withdrawn} &= 2526755 + 1556345 \\ &= ₹ 4083100 \end{aligned}$$

$$\begin{aligned} \text{Balance amount in Praveen's account} \\ &= 34456980 - 4083100 \\ &= ₹ 30373880 \end{aligned}$$

Exercise 4.3

- | | | | |
|--------|--|-----|--|
| 1. (a) | $\begin{array}{r} 6236 \\ \times 34 \\ \hline 24944 \\ 18708 \times \\ \hline 212024 \end{array}$ | (b) | $\begin{array}{r} 7298 \\ \times 85 \\ \hline 36490 \\ 58384 \times \\ \hline 620330 \end{array}$ |
| (c) | $\begin{array}{r} 9342 \\ \times 425 \\ \hline 46710 \\ 18684 \times \\ 37368 \times \times \\ \hline 3970350 \end{array}$ | (d) | $\begin{array}{r} 42879 \\ \times 986 \\ \hline 257274 \\ 343032 \times \\ 385911 \times \times \\ \hline 42278694 \end{array}$ |
| (e) | $\begin{array}{r} 74564 \\ \times 1235 \\ \hline 372820 \\ 223692 \times \\ 149128 \times \times \\ 74564 \times \times \times \\ \hline 92086540 \end{array}$ | (f) | $\begin{array}{r} 78654 \\ \times 9268 \\ \hline 629232 \\ 471924 \times \\ 157308 \times \times \\ 707886 \times \times \times \\ \hline 728965272 \end{array}$ |

$$\begin{array}{r}
 2. \text{ (a)} \quad 39674 \\
 \quad \quad \times 87 \\
 \hline
 \quad \quad 277718 \\
 \quad 317392 \times \\
 \hline
 \underline{3451638}
 \end{array}$$

$$\begin{array}{r}
 \text{(b)} \quad 25685 \\
 \quad \quad \times 725 \\
 \hline
 \quad \quad 128425 \\
 \quad 51370 \times \\
 \hline
 179795 \times \times \\
 \hline
 \underline{18621625}
 \end{array}$$

$$\begin{array}{r}
 \text{(c)} \quad 35968 \\
 \quad \quad \times 1087 \\
 \hline
 \quad \quad 251776 \\
 \quad 287744 \times \\
 \quad 00000 \times \times \\
 \hline
 35968 \times \times \times \\
 \hline
 \underline{39097216}
 \end{array}$$

$$\begin{array}{r}
 \text{(d)} \quad 60085 \\
 \quad \quad \times 3686 \\
 \hline
 \quad \quad 360510 \\
 \quad 480680 \times \\
 \quad 360510 \times \times \\
 \hline
 180255 \times \times \times \\
 \hline
 \underline{221473310}
 \end{array}$$

$$\begin{array}{r}
 \text{(e)} \quad 58790 \\
 \quad \quad \times 4056 \\
 \hline
 \quad \quad 352740 \\
 \quad 293950 \times \\
 \quad 00000 \times \times \\
 \hline
 235160 \times \times \times \\
 \hline
 \underline{238452240}
 \end{array}$$

$$\begin{array}{r}
 \text{(f)} \quad 70850 \\
 \quad \quad \times 6034 \\
 \hline
 \quad \quad 283400 \\
 \quad 212550 \times \\
 \quad 00000 \times \times \\
 \hline
 425100 \times \times \times \\
 \hline
 \underline{427508900}
 \end{array}$$

$$\begin{array}{r}
 3. \text{ (a)} \quad 47 \overline{) 795604} \quad (16927 \\
 \quad \quad \underline{- 47} \\
 \quad \quad \quad 325 \\
 \quad \quad \quad \underline{- 282} \\
 \quad \quad \quad \quad 436 \\
 \quad \quad \quad \quad \underline{- 423} \\
 \quad \quad \quad \quad \quad 130 \\
 \quad \quad \quad \quad \quad \underline{- 94} \\
 \quad \quad \quad \quad \quad \quad 364 \\
 \quad \quad \quad \quad \quad \quad \underline{- 329} \\
 \quad \quad \quad \quad \quad \quad \quad 35
 \end{array}$$

Quotient = 16927
Remainder = 35

$$\begin{array}{r}
 \text{(b) } 54 \overline{) 547486} \quad (10138 \\
 \underline{-54} \\
 74 \\
 \underline{-54} \\
 208 \\
 \underline{-162} \\
 466 \\
 \underline{-432} \\
 34
 \end{array}$$

Quotient = 10138
 Remainder = 34

$$\begin{array}{r}
 \text{(c) } 74 \overline{) 729876} \quad (9863 \\
 \underline{-666} \\
 638 \\
 \underline{-592} \\
 467 \\
 \underline{-444} \\
 236 \\
 \underline{-222} \\
 14
 \end{array}$$

Q = 9863
 R = 14

$$\begin{array}{r}
 \text{(d) } 355 \overline{) 5674208} \quad (15983 \\
 \underline{-355} \\
 2124 \\
 \underline{-1775} \\
 3492 \\
 \underline{-3195} \\
 2970 \\
 \underline{-2840} \\
 1308 \\
 \underline{-1065} \\
 243
 \end{array}$$

Q = 15983
 R = 243

$$\begin{array}{r}
 \text{(e) } 485 \overline{)6709483} \left(13833 \right. \\
 \underline{-485} \\
 1859 \\
 \underline{-1455} \\
 4044 \\
 \underline{-3880} \\
 1648 \\
 \underline{-1455} \\
 1933 \\
 \underline{-1455} \\
 478
 \end{array}
 \quad
 \begin{array}{l}
 Q = 13833 \\
 R = 478
 \end{array}$$

$$\begin{array}{r}
 \text{(f) } 801 \overline{)89086745} \left(111219 \right. \\
 \underline{-801} \\
 898 \\
 \underline{-801} \\
 976 \\
 \underline{-801} \\
 1757 \\
 \underline{-1602} \\
 1554 \\
 \underline{-801} \\
 7535 \\
 \underline{-7209} \\
 326
 \end{array}
 \quad
 \begin{array}{l}
 Q = 111219 \\
 R = 326
 \end{array}$$

$$\begin{array}{r}
 \text{(g) } 6704 \overline{)5608430} \left(836 \right. \\
 \underline{-53632} \\
 24523 \\
 \underline{-20112} \\
 44110 \\
 \underline{-40224} \\
 3886
 \end{array}
 \quad
 \begin{array}{l}
 Q = 836 \\
 R = 3886
 \end{array}$$

$$\begin{array}{r}
 \text{(h) } 1005 \overline{)67843467} \left(67505 \right. \\
 \underline{-6030} \\
 7543 \\
 \underline{-7035} \\
 5084 \\
 \underline{-5025} \\
 5967 \\
 \underline{-5025} \\
 942
 \end{array}
 \quad
 \begin{array}{l}
 Q = 67505 \\
 R = 942
 \end{array}$$

$$\begin{array}{r}
 \text{(i) } 4267 \overline{)6932570} \left(1624 \right. \\
 \underline{-4267} \\
 26655 \\
 \underline{-25602} \\
 10537 \\
 \underline{-8534} \\
 20030 \\
 \underline{-17068} \\
 2962
 \end{array}
 \quad
 \begin{array}{l}
 Q = 1624 \\
 R = 2962
 \end{array}$$

$$\begin{array}{r}
 \text{(j) } 898 \overline{)6705084} \left(7466 \right. \\
 \underline{-6286} \\
 4190 \\
 \underline{-3592} \\
 5988 \\
 \underline{-5388} \\
 6004 \\
 \underline{-5388} \\
 616
 \end{array}
 \quad
 \begin{array}{l}
 Q = 7466 \\
 R = 616
 \end{array}$$

$$\begin{array}{r}
 \text{(k) } 4960 \overline{)8540857} \left(1721 \right. \\
 \underline{-4960} \\
 35808 \\
 \underline{-34720} \\
 10885 \\
 \underline{-9920} \\
 9657 \\
 \underline{-4960} \\
 4697
 \end{array}
 \quad
 \begin{array}{l}
 Q = 1721 \\
 R = 4697
 \end{array}$$

$$\begin{array}{r}
 \text{(l) } 9287 \overline{)90350674} \left(9728 \right. \\
 \underline{-83583} \\
 67676 \\
 \underline{-65009} \\
 26677 \\
 \underline{-18574} \\
 81034 \\
 \underline{-74296} \\
 6738
 \end{array}
 \quad
 \begin{array}{l}
 Q = 9728 \\
 R = 6738
 \end{array}$$

4. (a) $(35 + 46) - (7 \times 10)$ (b) $(40 \times 25) \div (25 \text{ of } 5)$
 $81 - 70$ $1000 \div 5$
 $= 11$ $= 200$
- (c) $6 \times [18 - (13 - 7)]$ (d) $8 + (6 \times 7) - 17 + 7 \text{ of } 3$
 $6 \times [18 - 6]$ $(8 + 42) - 17 + 7 \times 3$
 6×12 $50 - 17 + 21$
 $= 72$ $71 - 17 = 54$
- (e) $57 - [28 - 4\{8 - (4 - 2)\}]$
 $57 - [28 - 4(8 - 2)]$
 $57 - [28 - 4 \times 6]$
 $57 - [28 - 24]$
 $57 - 4$
 $= 53$
- (f) $45 + 50 \div 5 \times (3 - 2)$

$$45 + 10 \times 1$$

$$= 55$$

Exercise 4.4

- | | |
|------------------------------|---|
| 1. Cost of one bicycle = | ₹ 78654 |
| Cost of 7561 bicycles = | $\begin{array}{r} \times 7561 \\ \hline 78654 \\ 471924 \times \\ 393270 \times \times \\ \hline 550578 \times \times \times \\ \hline \end{array}$ |
| Total cost = | <u>₹ 594702894</u> |
| 2. No. of bags in godown | 9745 |
| weight of each bag | × 375 |
| Total weight of these bags | <u>= 3654375 kg</u> |
| 3. No. of pencils in one box | 6754 |
| No. of pencils in 1045 boxes | × 1045 |
| Total no. of pencils | <u>7057930</u> |
| 4. Total among | = ₹ 3916250 |
| No. of persons | = 325 |
| Amount each person get | = 3916250 ÷ 325 |
| | = ₹ 12050 |
| 5. Total weight | 1711875 kg |
| No. of trucks | 249 |
| Weight in each truck | = 1711875 ÷ 249 |
| | = 6875 kg |
| 6. Product of two number | 1 785423 |
| One number | 987 |
| Other numbers | 1785483 ÷ 987 |
| | = 1809 |
| 7. Total Qty of water | 1322209 |
| No of water tanks | 1897 |
| Qty of water in each tank | 1322209 ÷ 1897 |
| | = 697 l |

8. Total amount collected on sale of calculators

$$= ₹ 742755$$

$$\text{Cost of one calculator} = ₹ 845$$

$$\text{No. of calculators sold} = 879$$

9. Total cost = ₹ 1664212

$$\text{No. of radios} = 347$$

$$\text{Cost of one radio} = ₹ 4796$$

10. No. of columns in newspaper = 124

$$\text{No. of lines} = 136$$

$$\text{Total no. of lines} = 124 \times 136 = 16864$$

$$\text{No. of letters in each line} = 36$$

$$\begin{aligned} \text{No. of letters in the newspaper} &= 16864 \times 36 \\ &= 607104 \end{aligned}$$

✿ MCQ's

1. (d) 1001 2. (d) 0 3. (b) minuend 4. (b) 10 lakh

5.

HCF and LCM

Exercise 5.1

1. (a) 15 and 25

$$15 = 1, 3, \textcircled{5}, 15$$

$$25 = 1, \textcircled{5}, 25$$

$$\text{H.C.F.} = 5$$

(c) 28 and 35

$$28 = 1, 2, 4, \textcircled{7}$$

$$35 = 1, 5, \textcircled{7}$$

$$\text{H.C.F.} = 7$$

(e) 15, 30 and 75

$$15 = 1, 3, 5, \textcircled{15}$$

(b) 36 and 24

$$36 = 1, 2, 3, 4, 6, 9, \textcircled{12}$$

$$24 = 1, 2, 3, 4, 6, 8, \textcircled{12}$$

$$\text{H.C.F.} = 12$$

(d) 8, 20 and 24

$$8 = 1, 2, \textcircled{4}, 8$$

$$20 = 1, 2, \textcircled{4}, 5, 10$$

$$24 = 1, 2, 3, \textcircled{4}, 6, 8, 12$$

$$\text{HCF} = 4$$

$$30 = 1, 2, 3, 5, 6, 10, \textcircled{15}$$

$$75 = 1, 3, 5, \textcircled{15}$$

$$\text{HCF} = 15$$

(f) 120, 160, 200

$$120 = 1, 2, 3, 4, 5, 6, 8, 10, 12, 15, 20, 24, 30, \textcircled{40}, 60, 120$$

$$160 = 1, 2, 4, 5, 8, 10, 16, 20, 32, \textcircled{40}, 80, 160$$

$$200 = 1, 2, 4, 5, 8, 10, 20, 25, \textcircled{40}, 50, 100, 200$$

$$\text{HCF} = 40$$

2. (a) 60 and 126

$$\begin{array}{r|l} 2 & 60 \\ \hline 2 & 30 \\ \hline 3 & 15 \\ \hline 5 & 5 \\ \hline & 1 \end{array}$$

$$\begin{array}{r|l} 2 & 126 \\ \hline 3 & 63 \\ \hline 3 & 21 \\ \hline 7 & 7 \\ \hline & 1 \end{array}$$

$$\textcircled{2} \times 2 \times \textcircled{3} \times 5$$
$$\textcircled{2} \times 3 \times \textcircled{3} \times 7$$

$$\text{HCF} = 2 \times 3 = 6$$

(b) 150 and 240

$$\begin{array}{r|l} 2 & 150 \\ \hline 3 & 75 \\ \hline 5 & 25 \\ \hline 5 & 5 \\ \hline & 1 \end{array}$$

$$\begin{array}{r|l} 2 & 240 \\ \hline 2 & 120 \\ \hline 3 & 60 \\ \hline 2 & 30 \\ \hline 3 & 15 \\ \hline 5 & 5 \\ \hline & 1 \end{array}$$

$$= 2 \times 3 \times 5 \times 5$$

$$= 2 \times 2 \times 2 \times 3 \times 5$$

$$\text{HCF} = 2 \times 3 \times 5 = 30$$

(c) 72 and 112

$$\begin{array}{r|l}
 2 & 72 \\
 \hline
 3 & 36 \\
 \hline
 2 & 18 \\
 \hline
 3 & 9 \\
 \hline
 3 & 3 \\
 \hline
 & 1
 \end{array}$$

$$\begin{array}{r|l}
 2 & 112 \\
 \hline
 2 & 56 \\
 \hline
 2 & 28 \\
 \hline
 2 & 14 \\
 \hline
 7 & 7 \\
 \hline
 & 1
 \end{array}$$

$$= 2 \times 2 \times 2 \times 3 \times 3$$

$$= 2 \times 2 \times 2 \times 2 \times 7$$

$$\text{HCF} = 2 \times 2 \times 2 = 8$$

(d) 52 and 104 $52 = 2 \times 2 \times 13$

$$104 = 2 \times 2 \times 2 \times 13$$

$$\text{HCF} = 2 \times 2 \times 13 = 52$$

(e) 176 and 206 $176 = 2 \times 2 \times 2 \times 2 \times 11$

$$206 = 2 \times 103$$

$$\text{HCF} = 2$$

(f) 54 and 114 $54 = 2 \times 3 \times 3 \times 3$

$$114 = 2 \times 3 \times 19$$

$$\text{HCF} = 2 \times 3 = 6$$

(g) 27 and 141 $27 = 3 \times 3 \times 3$

$$141 = 3 \times 47$$

$$\text{HCF} = 3$$

(h) 105 and 280 $105 = 3 \times 5 \times 7$

$$280 = 2 \times 2 \times 2 \times 5 \times 7$$

$$\text{HCF} = 5 \times 7 = 35$$

(i) 175 and 250 $175 = 5 \times 5 \times 7$

$$250 = 2 \times 5 \times 5 \times 5$$

$$\text{HCF} = 5 \times 5 = 25$$

(j) 110, 145 and 290 $\Rightarrow 110 = 2 \times 5 \times 11$

$$145 = 5 \times 29$$

$$290 = 2 \times 5 \times 29$$

$$\text{HCF} = 5$$

(k) $144 = 2 \times 2 \times 2 \times 2 \times 3 \times 3$

$$576 = 2 \times 2 \times 2 \times 2 \times 2 \times 2 \times 3 \times 3$$

$$804 = 2 \times 2 \times 3 \times 67$$

$$\text{HCF} = 2 \times 2 \times 3 = 12$$

3. (a)
$$\begin{array}{r|l} 2 & 20, 90 \\ 5 & 10, 45 \\ \hline & 2, 9 \end{array}$$
 $\text{HCF} = 2 \times 5 = 10$

(b)
$$\begin{array}{r|l} 2 & 46, 78 \\ \hline & 23, 39 \end{array}$$
 $\text{HCF} = 2$

(c)
$$\begin{array}{r|l} 5 & 155, 210 \\ \hline & 31, 42 \end{array}$$
 $\text{HCF} = 5$

(d)
$$\begin{array}{r|l} 2 & 48, 80, 96 \\ 2 & 24, 40, 48 \\ 2 & 12, 20, 24 \\ 2 & 6, 10, 12 \\ \hline & 3, 5, 6 \end{array}$$
 $\text{HCF} = 2 \times 2 \times 2 \times 2 = 16$

(e)
$$\begin{array}{r|l} 2 & 54, 78, 106 \\ \hline & 27, 39, 53 \end{array}$$
 $\text{HCF} = 2$

(f)
$$\begin{array}{r|l} 2 & 144, 180, 192 \\ 2 & 72, 90, 96 \\ 3 & 36, 45, 48 \\ \hline & 12, 15, 16 \end{array}$$
 $\text{HCF} = 2 \times 2 \times 3 = 12$

4. (a) 70 and 98

$$\begin{array}{r} 70 \overline{) 98} \quad (1 \\ \underline{-70} \\ 28 \\ 28 \overline{) 70} \quad (2 \\ \underline{-56} \\ 14 \\ 14 \overline{) 28} \quad (2 \\ \underline{-28} \\ 0 \end{array}$$

$\text{HCF} = 14$

$$\begin{array}{r}
 \text{(b) } 108 \overline{) 315} \quad (2 \\
 \underline{-216} \\
 99 \overline{) 108} \quad (1 \qquad \text{HCF} = 9 \\
 \underline{-99} \\
 9 \overline{) 99} \quad (11 \\
 \underline{-99} \\
 \underline{0}
 \end{array}$$

$$\begin{array}{r}
 \text{(c) } 575 \overline{) 920} \quad (1 \\
 \underline{-575} \\
 345 \overline{) 575} \quad (1 \qquad \text{HCF} = 115 \\
 \underline{-345} \\
 230 \overline{) 345} \quad (1 \\
 \underline{-230} \\
 115 \overline{) 230} \quad (2 \\
 \underline{-230} \\
 \underline{0}
 \end{array}$$

$$\begin{array}{r}
 \text{(d) } 18 \overline{) 42} \quad (2 \\
 \underline{-36} \\
 6 \overline{) 18} \quad (3 \qquad \text{HCF} = 6 \\
 \underline{-18} \\
 \underline{0}
 \end{array}$$

$$\begin{array}{r}
 \text{(e) } 168 \overline{) 256} \quad (1 \\
 \underline{-168} \\
 88 \overline{) 168} \quad (1 \qquad \text{HCF} = 8 \\
 \underline{-88} \\
 80 \overline{) 88} \quad (1 \\
 \underline{-80} \\
 8 \overline{) 80} \quad (10 \\
 \underline{-8} \\
 \underline{0}
 \end{array}$$

$$\begin{array}{r}
 \text{(f) } 605 \overline{) 935} \quad (1 \\
 \underline{-605} \\
 330 \overline{) 605} \quad (1 \qquad \text{HCF} = 55 \\
 \underline{-330} \\
 275 \overline{) 330} \quad (1 \\
 \underline{-275} \\
 55 \overline{) 275} \quad (2 \\
 \underline{-275} \\
 0
 \end{array}$$

$$\begin{array}{r}
 \text{(g) } 60 \overline{) 90} \quad (1 \\
 \underline{-60} \\
 30 \overline{) 60} \quad (2 \\
 \underline{-60} \\
 0
 \end{array}
 \qquad
 \begin{array}{r}
 30 \overline{) 150} \quad (5 \\
 \underline{-150} \\
 0 \\
 \text{HCF} = 30
 \end{array}$$

$$\begin{array}{r}
 \text{(h) } 75 \overline{) 100} \quad (1 \\
 \underline{-75} \\
 25 \overline{) 75} \quad (3 \\
 \underline{-75} \\
 0
 \end{array}
 \qquad
 \begin{array}{r}
 25 \overline{) 180} \quad (7 \\
 \underline{-175} \\
 5 \overline{) 25} \quad (5 \\
 \underline{-25} \\
 \times
 \end{array}$$

HCF = 5

$$\begin{array}{r}
 \text{(i) } 216 \overline{) 540} \quad (2 \\
 \underline{-432} \\
 108 \overline{) 216} \quad (2 \\
 \underline{-216} \\
 0
 \end{array}
 \qquad
 \begin{array}{r}
 108 \overline{) 1260} \quad (11 \\
 \underline{-108} \\
 180 \\
 \underline{-108} \\
 72 \overline{) 108} \quad (1 \\
 \underline{-72} \\
 36 \overline{) 72} \quad (2 \\
 \underline{-72} \\
 0
 \end{array}$$

HCF = 36

$$\begin{array}{r}
 \text{(j) } 144 \overline{) 576} \begin{array}{l} 4 \\ - 576 \\ \hline 00 \end{array} \quad 144 \overline{) 804} \begin{array}{l} 5 \\ - 720 \\ \hline 84 \end{array} \begin{array}{l} 1 \\ - 84 \\ \hline 60 \end{array} \begin{array}{l} 1 \\ - 60 \\ \hline 24 \end{array} \begin{array}{l} 2 \\ - 48 \\ \hline 12 \end{array} \begin{array}{l} 2 \\ - 24 \\ \hline \times \end{array}
 \end{array}$$

HCF = 12

Exercise 5.2

1. (a) 26 and 36

| | |
|----|--------|
| 2 | 26, 36 |
| 2 | 13, 18 |
| 3 | 13, 9 |
| 3 | 13, 3 |
| 13 | 13, 1 |
| | 1, 1 |

$$\text{LCM} = 2 \times 2 \times 3 \times 13 = 468$$

(c)

| | |
|----|--------|
| 2 | 29, 58 |
| 29 | 29, 29 |
| | 1, 1 |

$$\text{LCM} = 2 \times 29 = 58$$

(b) 58 and 112

| | |
|----|---------|
| 2 | 58, 112 |
| 2 | 29, 56 |
| 2 | 29, 28 |
| 2 | 29, 14 |
| 7 | 29, 7 |
| 29 | 29, 1 |
| | 1, 1 |

$$\text{LCM} = 2 \times 2 \times 2 \times 2 \times 7 \times 29 = 3268$$

(d)

| | |
|---|-------------|
| 2 | 40, 80, 120 |
| 2 | 20, 40, 60 |
| 2 | 10, 20, 30 |
| 5 | 5, 10, 15 |
| 2 | 1, 5, 3 |
| 3 | 1, 1, 3 |
| | 1, 1, 1 |

$$\text{LCM} = 2 \times 2 \times 2 \times 2 \times 3 \times 5 = 240$$

(e)

| | |
|---|------------|
| 2 | 16, 24, 36 |
| 2 | 8, 12, 18 |
| 2 | 4, 6, 9 |
| 2 | 2, 3, 9 |
| 3 | 1, 3, 9 |
| 3 | 1, 1, 3 |
| | 1, 1, 1 |

$$\begin{aligned} \text{LCM} &= 2 \times 2 \times 2 \times 2 \times 3 \times 3 \\ &= 144 \end{aligned}$$

(f)

| | |
|---|-----------|
| 7 | 7, 35, 70 |
| 5 | 1, 5, 10 |
| 2 | 1, 1, 2 |
| | 1, 1, 1 |

$$\begin{aligned} \text{LCM} &= 7 \times 5 \times 2 \\ &= 70 \end{aligned}$$

(g)

| | |
|---|---------------|
| 2 | 6, 10, 18, 30 |
| 3 | 3, 5, 9, 15 |
| 3 | 1, 5, 3, 5 |
| 5 | 1, 5, 1, 5 |
| | 1, 1, 1, 1 |

$$\begin{aligned} \text{LCM} &= 2 \times 3 \times 3 \times 5 \\ &= 90 \end{aligned}$$

(h)

| | |
|---|------------------|
| 2 | 36, 72, 108, 144 |
| 2 | 18, 36, 54, 72 |
| 2 | 9, 18, 27, 36 |
| 2 | 9, 9, 27, 18 |
| 3 | 9, 9, 27, 9 |
| 3 | 3, 3, 9, 3 |
| 3 | 1, 1, 3, 1 |
| | 1, 1, 1, 1 |

$$\begin{aligned} \text{LCM} &= 2 \times 2 \times 2 \times 2 \times \\ &\quad 3 \times 3 \times 3 \\ &= 432 \end{aligned}$$

(i)

| | |
|----|------------------|
| 2 | 66, 88, 110, 121 |
| 11 | 33, 44, 55, 121 |
| 11 | 3, 4, 5, 11 |
| 3 | 3, 4, 5, 1 |
| 4 | 1, 4, 5, 1 |
| 5 | 1, 1, 5, 1 |
| | 1, 1, 1, 1 |

$$\begin{aligned} \text{LCM} &= 2 \times 11 \times 11 \times 3 \\ &\quad \times 4 \times 5 \\ &= 14520 \end{aligned}$$

$$\begin{array}{r|l}
 2 & 104, 124 \\
 \hline
 2 & 52, 62 \\
 \hline
 2 & 26, 31 \\
 \hline
 13 & 13, 31 \\
 \hline
 31 & 1, 31 \\
 \hline
 & 1, 1
 \end{array}$$

$$\begin{aligned}
 \text{LCM} &= 2 \times 2 \times 2 \times 13 \\
 &\quad \times 31 \\
 &= 3224
 \end{aligned}$$

$$\begin{array}{r|l}
 2 & 64, 80, 96 \\
 \hline
 2 & 32, 40, 48 \\
 \hline
 2 & 16, 20, 24 \\
 \hline
 2 & 8, 10, 12 \\
 \hline
 2 & 4, 5, 6 \\
 \hline
 2 & 2, 5, 3 \\
 \hline
 3 & 1, 5, 3 \\
 \hline
 5 & 1, 5, 1 \\
 \hline
 & 1, 1, 1
 \end{array}$$

$$\begin{aligned}
 \text{LCM} &= 2 \times 2 \times 2 \times 2 \times \\
 &\quad 2 \times 2 \times 3 \times 5 \\
 &= 960
 \end{aligned}$$

$$\begin{array}{r|l}
 2 & 16, 24, 32 \\
 \hline
 2 & 8, 12, 16 \\
 \hline
 2 & 4, 3, 8 \\
 \hline
 2 & 2, 3, 4 \\
 \hline
 2 & 1, 3, 2 \\
 \hline
 3 & 1, 3, 1 \\
 \hline
 & 1, 1, 1
 \end{array}$$

$$\begin{aligned}
 \text{LCM} &= 2 \times 2 \times 2 \times 2 \\
 &\quad \times 2 \times 3 = 96
 \end{aligned}$$

$$\begin{array}{r|l}
 3 & 15, 30, 75 \\
 \hline
 5 & 5, 10, 25 \\
 \hline
 5 & 1, 2, 5 \\
 \hline
 2 & 1, 2, 1 \\
 \hline
 & 1, 1, 1
 \end{array}$$

$$\begin{aligned}
 \text{LCM} &= 3 \times 5 \times 5 \times 2 \\
 &= 150
 \end{aligned}$$

$$\begin{array}{r|l}
 2 & 45, 80, 140 \\
 \hline
 2 & 45, 40, 70 \\
 \hline
 2 & 45, 20, 35 \\
 \hline
 2 & 45, 10, 35 \\
 \hline
 5 & 45, 5, 35 \\
 \hline
 7 & 9, 1, 7 \\
 \hline
 3 & 9, 1, 1 \\
 \hline
 3 & 3, 1, 1 \\
 \hline
 & 1, 1, 1
 \end{array}$$

$$\begin{aligned}
 \text{LCM} &= 2 \times 2 \times 2 \times 2 \\
 &\quad \times 5 \times 7 \times 3 \times 3 \\
 &= 5040
 \end{aligned}$$

$$\begin{array}{r|l}
 2 & 74, 94, 124 \\
 \hline
 2 & 37, 47, 62 \\
 \hline
 31 & 37, 47, 31 \\
 \hline
 37 & 37, 47, 1 \\
 \hline
 47 & 1, 47, 1 \\
 \hline
 & 1, 1, 1
 \end{array}$$

$$\begin{aligned}
 \text{LCM} &= 2 \times 2 \times 31 \times \\
 &\quad 37 \times 47 \\
 &= 215636
 \end{aligned}$$

3. (a) product (b) coprime (c) equal

4. Product of number = H.C.F. \times L.C.M.

$$210 \times \text{Number} = 30 \times 2310$$

$$\text{Number} = \frac{30 \times 2310}{210} = 330$$

5. $96 \times 8 = 32 \times \text{Number}$

$$\text{No.} = \frac{96 \times 8}{32} = 24$$

6. $3750 = 150 \times \text{H.C.F.}$

$$\text{H.C.F.} = \frac{3750}{150} = 25$$

7. (a) 36 and 72

$$\begin{array}{r} 36 \overline{) 72} \quad (2 \\ \underline{- 72} \\ \times \end{array}$$

$$\text{HCF} = 36$$

$$\text{LCM} = \frac{36 \times 72}{36} = 72$$

(b) 37 and 74

$$\begin{array}{r} 37 \overline{) 74} \quad (2 \\ \underline{- 74} \\ \times \end{array}$$

$$\text{HCF} = 37$$

$$\text{LCM} = \frac{37 \times 74}{37} = 74$$

(c) 66 and 55

$$\begin{array}{r} 55 \overline{) 66} \quad (1 \\ \underline{- 55} \\ 11 \end{array}$$

$$\text{H.C.F.} = 11$$

$$\text{LCM} = \frac{66 \times 55}{11} = 330$$

$$\begin{array}{r} 11 \overline{) 55} \quad (5 \\ \underline{- 55} \\ \times \end{array}$$

(d) 100 and 180

$$\text{HCF} = 20$$

$$\text{LCM} = \frac{100 \times 180}{20} = 900$$

$$\begin{array}{r}
 100 \overline{) 180} \quad (1 \\
 \underline{-100} \\
 80 \overline{) 100} \quad (1 \\
 \underline{-80} \\
 20 \overline{) 80} \quad (4 \\
 \underline{-80} \\
 \times
 \end{array}$$

(e) 128 and 164 $\text{LCM} = \frac{128 \times 164}{4} = 5248$

$$\begin{array}{r}
 128 \overline{) 164} \quad (1 \\
 \underline{-128} \\
 36 \overline{) 128} \quad (3 \\
 \underline{-108} \\
 20 \overline{) 36} \quad (1 \quad \text{HCF} = 4 \\
 \underline{-20} \\
 16 \overline{) 20} \quad (1 \\
 \underline{-16} \\
 4 \overline{) 16} \quad (4 \\
 \underline{-16} \\
 \times
 \end{array}$$

(f) 148 and 210 $\text{HCF} = 2$
 $\text{LCM} = \frac{148 \times 210}{2} = 15540$

$$\begin{array}{r}
 148 \overline{) 210} \quad (1 \\
 \underline{-148} \\
 62 \overline{) 148} \quad (2 \quad \quad \quad 4 \overline{) 10} \quad (2 \\
 \underline{-124} \quad \quad \quad \underline{-8} \\
 24 \overline{) 62} \quad (2 \quad \quad \quad 2 \overline{) 4} \quad (2 \\
 \underline{-48} \quad \quad \quad \underline{-4} \\
 14 \overline{) 24} \quad (1 \quad \quad \quad \times \\
 \underline{-14} \\
 10 \overline{) 14} \quad (1 \\
 \underline{-10}
 \end{array}$$

Exercise 5.3

$$\begin{array}{r}
 1. \quad 100 \overline{) 160} \left(1 \right. \\
 \quad \quad - 100 \\
 \quad \quad \hline
 \quad \quad 60 \overline{) 100} \left(1 \right. \\
 \quad \quad \quad - 60 \\
 \quad \quad \quad \hline
 \quad \quad \quad 40 \overline{) 60} \left(1 \right. \quad \quad \text{HCF} = 20 \\
 \quad \quad \quad \quad - 40 \\
 \quad \quad \quad \quad \hline
 \quad \quad \quad \quad 20 \overline{) 40} \left(2 \right. \\
 \quad \quad \quad \quad \quad - 40 \\
 \quad \quad \quad \quad \quad \hline
 \quad \quad \quad \quad \quad \times
 \end{array}$$

Ans. Greatest number that will exactly divide 100 and 160 is 20

2. Product of two numbers = HCF \times LCM

$$747 = 3 \times \text{LCM}$$

$$\text{LCM} = \frac{747}{3} = 249$$

3.

| | | | |
|---|------|------|-----|
| 2 | 150, | 200, | 225 |
| 2 | 75, | 100, | 225 |
| 2 | 75, | 50, | 225 |
| 5 | 75, | 25, | 225 |
| 5 | 15, | 5, | 45 |
| 3 | 3, | 1, | 9 |
| 3 | 1, | 1, | 3 |
| | 1, | 1, | 1 |

$$= 2 \times 2 \times 2 \times 5 \times 5 \times 3 \times 3$$

$$= 1800$$

4. $96 \times 8 = 4 \times \text{Number}$

$$\text{Number} = \frac{96 \times 8}{4} = 96 \times 2 = 192$$

5. HCF of 18 m, 36 m, and 90 m

$$\begin{array}{r}
 18 \overline{) 36} \left(2 \right. \quad \quad 18 \overline{) 90} \left(5 \right. \\
 \quad \quad - 36 \\
 \quad \quad \hline
 \quad \quad \times \quad \quad \quad \quad - 90 \\
 \quad \quad \quad \quad \quad \quad \quad \quad \hline
 \quad \quad \quad \quad \quad \quad \quad \quad \times
 \end{array}$$

HCF = 18

Third rod will be divided into $90 \div 18 = 5$ portions

6.

Fractions

Exercise 6.1

$$1. \text{ (a) } \frac{3}{9} = \frac{1}{3} \quad \text{(b) } \frac{3}{15} = \frac{1}{5} \quad \text{(c) } \frac{6}{28} = \frac{3}{14}$$

$$2. \frac{1}{7}, \frac{1}{9}, \frac{1}{12}, \frac{1}{13}$$

$$3. \text{ (b) } \frac{1}{9}, \frac{8}{9} \quad \text{(c) } \frac{3}{17}, \frac{4}{17}$$

$$4. \text{ (a) } \frac{1}{9}, \frac{3}{7} \quad \text{(d) } \frac{5}{13}, \frac{7}{15}$$

$$5. \text{ (a) } \frac{3}{8} \quad \text{(c) } \frac{5}{13} \quad \text{(e) } \frac{8}{19}$$

$$6. \text{ (a) } \frac{8}{3} = \begin{array}{r} 3 \overline{) 8} \quad (1 \\ \underline{-3} \\ 5 \end{array} = 1\frac{5}{3}$$

$$\text{(b) } \frac{61}{4} = \begin{array}{r} 4 \overline{) 61} \quad (15 \\ \underline{-4} \\ 21 \\ \underline{-20} \\ 1 \end{array} = 15\frac{1}{4}$$

$$\text{(c) } \frac{11}{8} = \begin{array}{r} 8 \overline{) 11} \quad (1 \\ \underline{-8} \\ 3 \end{array} = 1\frac{3}{8}$$

$$\text{(d) } \frac{28}{5} = \begin{array}{r} 5 \overline{) 28} \quad (5 \\ \underline{-25} \\ 3 \end{array} = 5\frac{3}{5}$$

$$\text{(e) } \frac{16}{7} = \begin{array}{r} 7 \overline{) 16} \quad (2 \\ \underline{-14} \\ 2 \end{array} = 2\frac{2}{7}$$

$$7. (a) 8\frac{5}{6} = \frac{6 \times 8 + 5}{6} = \frac{53}{6} \quad (b) 7\frac{4}{8} = \frac{8 \times 7 + 4}{8} = \frac{60}{8}$$

$$(c) 3\frac{4}{5} = \frac{5 \times 3 + 4}{5} = \frac{19}{5} \quad (d) 6\frac{1}{11} = \frac{11 \times 6 + 1}{11} = \frac{67}{11}$$

$$(e) 13\frac{5}{10} = \frac{10 \times 13 + 5}{10} = \frac{135}{10}$$

$$8. (a) \frac{3}{8} = \frac{3 \times 2}{8 \times 2} = \frac{6}{16}, \frac{3 \times 3}{8 \times 3} = \frac{9}{24}, \frac{3 \times 4}{8 \times 4} = \frac{12}{32}$$

$$(b) \frac{7}{9} = \frac{7 \times 2}{9 \times 2} = \frac{14}{18}, \frac{7 \times 3}{9 \times 3} = \frac{21}{27}, \frac{7 \times 4}{9 \times 4} = \frac{28}{36}$$

$$(c) \frac{5}{11} = \frac{5 \times 2}{11 \times 2} = \frac{10}{22}, \frac{5 \times 3}{11 \times 3} = \frac{15}{33}, \frac{5 \times 4}{11 \times 4} = \frac{20}{44}$$

$$(d) \frac{4}{18} = \frac{4 \times 2}{18 \times 2} = \frac{8}{36}, \frac{4 \times 3}{18 \times 3} = \frac{12}{54}, \frac{4 \times 4}{18 \times 4} = \frac{16}{72}$$

$$(e) \frac{9}{25} = \frac{9 \times 2}{25 \times 2} = \frac{18}{50}, \frac{9 \times 3}{25 \times 3} = \frac{27}{75}, \frac{9 \times 4}{25 \times 4} = \frac{36}{100}$$

$$9. (a) 25 \div 5 = 5 \Rightarrow \frac{4 \times 5}{5 \times 5} = \frac{20}{25}$$

$$(b) 64 \div 8 = 8 \Rightarrow \frac{8 \times 8}{9 \times 8} = \frac{64}{72}$$

$$(c) 56 \div 7 = 8 \Rightarrow \frac{7 \times 8}{13 \times 8} = \frac{56}{104}$$

$$(d) 70 \div 35 = 2 \Rightarrow \frac{11 \times 2}{35 \times 2} = \frac{22}{70}$$

$$10. \frac{5 \times 7}{11 \times 7} = \frac{35}{77}$$

$$11. \frac{54 \div 6}{48 \div 6} = \frac{9}{8}$$

$$12. (a) \frac{27}{54} = \frac{3}{6} = \frac{1}{2} \quad (b) \frac{24}{36} = \frac{2}{3} (\div 12)$$

$$(c) \frac{45}{54} = \frac{5}{6} (\div 9) \quad (d) \frac{35}{50} = \frac{7}{10} (\div 5)$$

$$(e) \frac{60}{80} = \frac{3}{4} (\div 20)$$

Exercise 6.2

1. (a) $\frac{3}{5} > \frac{2}{5}$ (b) $\frac{2}{9} < \frac{8}{9}$ (c) $\frac{3}{8} < \frac{4}{8}$ (d) $\frac{13}{27} > \frac{7}{27}$
2. (a) $\frac{1}{7} > \frac{1}{9}$ (b) $\frac{5}{13} < \frac{5}{11}$ (c) $\frac{9}{27} > \frac{9}{29}$ (d) $\frac{11}{54} < \frac{11}{50}$
3. (a) $\frac{2}{7} < \frac{5}{9}$ (b) $\frac{6}{15} < \frac{2}{13}$ (c) $\frac{15}{8} < \frac{13}{6}$ (d) $\frac{7}{10} > \frac{6}{9}$
- (e) $\frac{2}{15} < \frac{7}{25}$ (f) $\frac{3}{9} > \frac{1}{8}$
4. (a) $3\frac{1}{4}, 3\frac{4}{9} \Rightarrow \frac{13}{4}, \frac{31}{9}$ (b) $3, \frac{28}{9}$
 $\frac{117}{36} \boxed{<} \frac{124}{36}$ $\Rightarrow \frac{27}{9} \boxed{<} \frac{28}{9}$
- (c) $2\frac{1}{5}, 2\frac{2}{7} \Rightarrow \frac{11}{5}, \frac{16}{7}$ (e) $4\frac{1}{6}, 4\frac{1}{4} \Rightarrow \frac{25}{6}, \frac{17}{4}$
 $\frac{77}{35} \boxed{<} \frac{80}{35}$ $\frac{50}{12} \boxed{<} \frac{51}{12}$ LCM = 12
- (f) $7\frac{2}{7}, 7\frac{1}{16} \Rightarrow \frac{51}{7}, \frac{113}{16}$, LCM = 112
 $\frac{16 \times 51}{112}, \frac{113 \times 7}{112} \Rightarrow \frac{816}{112} \boxed{>} \frac{791}{112}$
5. (a) $\frac{3}{25}, \frac{5}{25}, \frac{12}{25}, \frac{17}{25}, \frac{24}{25}$ (b) $\frac{1}{13}, \frac{4}{13}, \frac{5}{13}, \frac{9}{13}, \frac{10}{13}$
- (c) $\frac{4}{5}, \frac{7}{10}, \frac{8}{11}, \frac{3}{7}, \frac{2}{6}$ LCM = 2310
 $\Rightarrow \frac{4}{5} \Rightarrow \frac{4 \times 462}{2310} = \frac{1848}{2310}$
 $\Rightarrow \frac{7}{10} \Rightarrow \frac{7 \times 231}{2310} = \frac{1617}{2310}$
 $\Rightarrow \frac{8}{11} \Rightarrow \frac{8 \times 210}{2310} = \frac{1680}{2310}$
 $\Rightarrow \frac{3}{7} \Rightarrow \frac{3 \times 330}{2310} = \frac{990}{2310}$

$$\Rightarrow \frac{2}{6} \Rightarrow \frac{2 \times 385}{2310} = \frac{770}{2310}$$

$$\Rightarrow \frac{2}{6}, \frac{3}{7}, \frac{7}{10}, \frac{8}{11}, \frac{4}{5}$$

$$(d) \frac{5}{7}, \frac{3}{15}, \frac{1}{14}, \frac{1}{24}, \frac{1}{9} \quad \text{LCM} = 2520$$

$$\Rightarrow \frac{5}{7} \Rightarrow \frac{5 \times 360}{2520} = \frac{1800}{2520}$$

$$\Rightarrow \frac{3}{15} \Rightarrow \frac{3 \times 168}{2520} = \frac{504}{2520}$$

$$\Rightarrow \frac{1}{14} \Rightarrow \frac{1 \times 180}{2520} = \frac{180}{2520}$$

$$\Rightarrow \frac{1}{24} \Rightarrow \frac{1 \times 105}{2520} = \frac{105}{2520}$$

$$\Rightarrow \frac{1}{9} \Rightarrow \frac{1 \times 280}{2520} = \frac{280}{2520}$$

$$\Rightarrow \frac{1}{24}, \frac{1}{14}, \frac{1}{9}, \frac{3}{15}, \frac{5}{7}$$

$$6. (a) \frac{15}{3}, \frac{15}{5}, \frac{15}{7}, \frac{15}{9}, \frac{15}{11} \quad (b) \frac{23}{11}, \frac{23}{18}, \frac{23}{19}, \frac{23}{25}, \frac{23}{27}$$

$$(c) \frac{2}{5}, \frac{3}{10}, \frac{7}{15}, \frac{3}{4}, \frac{8}{12} \quad \text{LCM} = 60$$

$$\Rightarrow \frac{2}{5} \Rightarrow \frac{2 \times 12}{60} = \frac{24}{60}$$

$$\Rightarrow \frac{3}{10} \Rightarrow \frac{3 \times 6}{60} = \frac{18}{60}$$

$$\Rightarrow \frac{7}{15} \Rightarrow \frac{7 \times 4}{60} = \frac{28}{60}$$

$$\Rightarrow \frac{3}{4} \Rightarrow \frac{3 \times 15}{60} = \frac{45}{60}$$

$$\Rightarrow \frac{8}{12} \Rightarrow \frac{8 \times 5}{60} = \frac{40}{60}$$

$$\Rightarrow \frac{3}{4}, \frac{8}{12}, \frac{7}{15}, \frac{2}{5}, \frac{3}{10}$$

$$\begin{aligned}
 \text{(d)} \quad & \frac{2}{7}, \frac{9}{17}, \frac{13}{34}, \frac{11}{25}, \frac{7}{28} \Rightarrow \text{LCM} = 11900 \\
 \Rightarrow & \frac{2}{7} = \frac{2 \times 1700}{11900} = \frac{3400}{11900} \\
 \Rightarrow & \frac{9}{17} = \frac{9 \times 700}{11900} = \frac{6300}{11900} \\
 \Rightarrow & \frac{13}{34} = \frac{13 \times 350}{11900} = \frac{4550}{11900} \\
 \Rightarrow & \frac{11}{25} = \frac{11 \times 476}{11900} = \frac{5236}{11900} \\
 \Rightarrow & \frac{7}{28} = \frac{7 \times 425}{11900} = \frac{2975}{11900} \\
 \Rightarrow & \frac{2}{7}, \frac{9}{17}, \frac{13}{34}, \frac{11}{25}, \frac{7}{28}
 \end{aligned}$$

Exercise 6.3

$$\begin{aligned}
 \text{1. (a)} \quad & \frac{1}{7} + \frac{2}{7} = \frac{1+2}{7} = \frac{3}{7} & \text{(b)} \quad & \frac{3+4}{8} = \frac{7}{8} \\
 \text{(c)} \quad & \frac{8+5}{9} = \frac{13}{9} & \text{(d)} \quad & \frac{1+5+8}{10} = \frac{14}{10} \\
 \text{(e)} \quad & \frac{16+15+18}{21} = \frac{49}{21} & \text{(f)} \quad & \frac{12+19+21}{23} = \frac{52}{23} \\
 \text{2. (a)} \quad & \frac{5}{12} + \frac{3}{15} \Rightarrow \frac{25+12}{60} = \frac{37}{60} \\
 \text{(b)} \quad & \frac{2}{9} + \frac{5}{8} \Rightarrow \frac{16+45}{72} = \frac{61}{72} \\
 \text{(c)} \quad & \frac{6}{17} + \frac{4}{21} \Rightarrow \frac{6 \times 21 + 4 \times 17}{357} = \frac{126+68}{357} = \frac{194}{357} \\
 \text{(d)} \quad & \frac{4}{19} + \frac{3}{11} + 2 \Rightarrow \frac{44+57+418}{209} = \frac{519}{209} \\
 \text{(e)} \quad & \frac{1}{5} + \frac{1}{7} + \frac{1}{9} = \frac{63+45+35}{315} = \frac{143}{315} \\
 \text{(f)} \quad & \frac{2}{3} + \frac{3}{5} + \frac{4}{7} = \frac{70+63+60}{105} = \frac{193}{105}
 \end{aligned}$$

$$(g) 1\frac{3}{4} + 1\frac{2}{3} + \frac{4}{5} \Rightarrow \text{LCM} = 60$$

$$\frac{7}{4} + \frac{5}{3} + \frac{4}{5} \Rightarrow \frac{105 + 100 + 48}{60} = \frac{253}{60}$$

$$(h) 2\frac{3}{5} + 1\frac{3}{7} + 2\frac{1}{5} \Rightarrow \text{LCM} = 35$$

$$\frac{13}{5} + \frac{10}{7} + \frac{11}{5} = \frac{91 + 50 + 77}{35} = \frac{218}{35}$$

$$(i) 4\frac{1}{7} + 3\frac{2}{7} + 1\frac{5}{7} = \frac{29}{7} + \frac{23}{7} + \frac{12}{7} = \frac{64}{7}$$

$$3. (a) \frac{15-7}{14} = \frac{8}{14} \quad (d) \frac{19-9}{38} = \frac{10}{38}$$

$$(b) \frac{8-4}{9} = \frac{4}{9} \quad (e) \frac{21-13}{42} = \frac{8}{42}$$

$$(c) \frac{7-4}{25} = \frac{3}{25} \quad (f) \frac{11-10}{31} = \frac{1}{31}$$

$$4. (a) \frac{4}{5} - \frac{3}{14} \Rightarrow \frac{56-15}{70} = \frac{41}{70}$$

$$(b) \frac{6}{7} - \frac{8}{19} \Rightarrow \frac{114-56}{133} = \frac{58}{133}$$

$$(c) 1 - \frac{3}{22} \Rightarrow \frac{22-3}{22} = \frac{19}{22}$$

$$(d) 5\frac{2}{6} - 1\frac{3}{12} \Rightarrow \frac{32}{6} - \frac{15}{12} = \frac{64-15}{12} = \frac{49}{12}$$

$$(e) 8 - 4\frac{1}{7} \Rightarrow 8 - \frac{29}{7} \Rightarrow \frac{56-29}{7} = \frac{27}{7}$$

$$(f) 1\frac{11}{22} - \frac{5}{17} \Rightarrow \frac{33}{22} - \frac{5}{17} \Rightarrow \frac{561-110}{374} = \frac{451}{374}$$

$$5. (a) \frac{9}{8} + \frac{2}{8} - \frac{3}{8} = \frac{9+2-3}{8} = \frac{8}{8} = 1$$

$$(b) \frac{1}{5} - \frac{2}{9} + \frac{7}{12} \Rightarrow \frac{36-40+105}{180} = \frac{36+105-40}{180} = \frac{101}{180}$$

$$(c) \frac{3}{7} + \frac{5}{10} - \frac{1}{2} \Rightarrow \frac{30+35-35}{70} = \frac{65-35}{70} = \frac{30}{70}$$

$$(d) 4\frac{1}{4} - 2\frac{3}{8} + 8\frac{1}{3} = \frac{17}{4} - \frac{19}{8} + \frac{25}{3}$$

$$\frac{102 - 57 + 200}{24} = \frac{102 + 200 - 57}{24} = \frac{245}{24}$$

$$(e) 6\frac{5}{9} - 2\frac{1}{6} + 4\frac{1}{3}, \text{ LCM} = 18$$

$$\frac{59}{9} - \frac{13}{6} + \frac{13}{3} \Rightarrow \frac{118 - 39 + 78}{18}$$

$$\frac{118 + 78 - 39}{18} = \frac{157}{18}$$

$$6. 6\frac{1}{4} + 3\frac{2}{7} = \frac{25}{4} + \frac{23}{7} = \frac{175 - 92}{28} = \frac{83}{28}$$

$$5\frac{3}{4} + 7\frac{1}{2} = \frac{23}{4} + \frac{15}{2} \Rightarrow \frac{23 + 30}{4} = \frac{53}{4}$$

$$\frac{371 - 83}{28} = \frac{288}{28}$$

$$7. \left(6\frac{2}{4} - 5\frac{1}{5}\right) = \frac{26}{4} - \frac{26}{5} \Rightarrow \frac{130 - 104}{20} = \frac{26}{20}$$

$$5 - 2\frac{1}{2} \Rightarrow 5 - \frac{5}{2} \Rightarrow \frac{25 - 5}{2} = \frac{20}{2}$$

$$\frac{20}{2} - \frac{26}{20} \Rightarrow \frac{200 - 26}{20} = \frac{174}{20}$$

Exercise 6.4

1. Gas in cylinder = 47 litres

$$\text{Gas used} = 20\frac{3}{4}$$

Gas left =

$$47 - \frac{83}{4} \Rightarrow \frac{188 - 83}{4} = \frac{105}{4} \text{ l}$$

$$2. 2\frac{4}{5} - 1\frac{8}{11} \Rightarrow \frac{14}{5} - \frac{19}{11} = \frac{154 - 95}{55}$$

$$= \frac{59}{55} = 1 \frac{4}{55}$$

3. Time taken to paint table = $2 \frac{3}{5}$ hours

Time taken paint chair = $2 \frac{1}{5}$ hours

$$\begin{aligned} \text{Total time taken} &= 2 \frac{3}{5} + 2 \frac{1}{5} \\ &= \frac{13}{5} + \frac{11}{5} = \frac{24}{5} = 4 \frac{4}{5} \text{ hours} \end{aligned}$$

4. Qty of Potatoes = $3 \frac{3}{6}$ kg

Qty of lady finger = $2 \frac{1}{3}$ kg

Qty of tomatoes = $3 \frac{1}{9}$ kg

Total qty bought = $\frac{21}{6} + \frac{7}{3} + \frac{28}{9}$ LCM = 18

$$\frac{63 + 42 + 56}{18} = \frac{161}{18} \text{ kg}$$

5. $\frac{3}{7} + \frac{3}{5} + \frac{2}{6} + \frac{3}{10}$, LCM = 210

$$\frac{90 + 126 + 70 + 63}{210} = \frac{349}{210} \text{ m distance is covered by}$$

frog.

6. $10 \frac{2}{9} - 7 \frac{1}{5} \Rightarrow \frac{92}{9} - \frac{36}{5} = \frac{460 - 324}{45} = \frac{136}{45} = 3 \frac{1}{45}$

7. Cloth purchased = 15 m

Cloth used for curtains $3 \frac{4}{5}$ m = $\frac{19}{5}$ m

Cloth used for bed sheet $2 \frac{3}{5}$ m = $\frac{13}{5}$ m

Total cloth used = $\frac{19}{5} + \frac{13}{5} = \frac{32}{5}$ m

$$\begin{aligned}\text{Cloth left} &= 15 - \frac{32}{5} = \frac{75 - 32}{5} \\ &= \frac{43}{5} = 8\frac{3}{5} \text{ m}\end{aligned}$$

8. Weight of drum $60\frac{1}{5}$ kg = $\frac{301}{5}$ kg

Weight of empty drum = $13\frac{2}{5}$ kg

Weight of wheat in drum

$$\begin{aligned}&= \frac{301}{5} - \frac{67}{5} = \frac{234}{5} \\ &= 46\frac{4}{5} \text{ kg}\end{aligned}$$

Exercise 6.5

1. (a) $\frac{1}{2} \times 7 = \frac{7}{2}$ (b) $\frac{2}{5} \times 7 = \frac{14}{5}$
 (c) $\frac{3}{4} \times 8 = \frac{24}{4} = 6$ (d) $\frac{5}{9} \times 6 = \frac{30}{9} = \frac{10}{3}$
 (e) $\frac{5}{6} \times 12 = 5 \times 2 = 10$ (f) $\frac{7}{8} \times 64 = 7 \times 8 = 56$
 (g) $\frac{13}{25} \times 7 = \frac{91}{25}$ (h) $\frac{18}{32} \times 6 = \frac{18}{16} \times 3 = \frac{9}{8} \times 3 = \frac{27}{8}$
 (i) $2\frac{1}{7} \times 5 = \frac{15}{7} \times 5 = \frac{75}{7} = 10\frac{5}{7}$
 (j) $3\frac{1}{2} \times 4 = \frac{7}{2} \times 4 = 7 \times 2 = 14$
 (k) $3\frac{1}{5} \times 6 = \frac{16}{5} \times 6 = \frac{96}{5} = 19\frac{1}{5}$
 (l) $3\frac{1}{8} \times 7 = \frac{25}{8} \times 7 = \frac{175}{8} = 21\frac{7}{8}$
2. (a) $\frac{3}{4} \times \frac{4}{8} = \frac{3}{8}$

$$(b) \frac{4}{7} \times \frac{9}{24} = \frac{1}{7} \times \frac{9}{6} = \frac{1}{7} \times \frac{3}{2} = \frac{3}{14}$$

$$(c) \frac{3}{8} \times \frac{5}{17} = \frac{15}{136} \quad (d) \frac{6}{11} \times \frac{55}{48} = \frac{6 \times 5}{48} = \frac{5}{8}$$

$$(e) 17\frac{2}{3} \times 4\frac{4}{5} = \frac{53}{3} \times \frac{24}{5} \quad (f) 19\frac{3}{4} \times 15\frac{3}{7} = \frac{79}{4} \times \frac{108}{7}$$

$$= \frac{53 \times 8}{5} = \frac{424}{5} \quad = \frac{79 \times 27}{7} = \frac{2133}{7}$$

$$= 84\frac{4}{5} \quad = 304\frac{5}{7}$$

$$(g) 21\frac{1}{7} \times 13\frac{1}{8} = \frac{148}{7} \times \frac{105}{8}$$

$$= \frac{148 \times 15}{8} = \frac{2220}{8} = 277\frac{4}{8}$$

$$(h) 1\frac{2}{3} \times \frac{3}{50} = \frac{5}{3} \times \frac{3}{50} = \frac{1}{10}$$

$$(i) \frac{1}{2} \times \frac{1}{4} \times \frac{1}{6} = \frac{1}{48}$$

$$(j) \frac{6}{8} \times 4\frac{3}{5} \times 1\frac{1}{12} \Rightarrow \frac{6}{8} \times \frac{23}{5} \times 5\frac{13}{12}$$

$$= \frac{1}{8} \times \frac{23}{5} \times \frac{13}{2} = \frac{299}{80} = 3\frac{59}{80}$$

$$(k) 1\frac{3}{7} \times 4\frac{2}{3} \times 6 = \frac{10}{7} \times \frac{14}{3} \times 6$$

$$= 10 \times 2 \times 2 = 40$$

$$(l) \frac{7}{8} \times \frac{4}{5} \times 3\frac{3}{9} = \frac{7}{8} \times \frac{4}{5} \times \frac{30}{9}$$

$$= \frac{7}{2} \times \frac{6}{9} = \frac{42}{18} = 2\frac{6}{18}$$

$$3. (a) \frac{3}{8} \times \frac{7}{15} = \frac{7}{8 \times 5} = \frac{7}{40} \quad (b) \frac{3}{11} \times \frac{22}{72} = \frac{2}{24} = \frac{1}{12}$$

$$(c) 50 \times \frac{3}{10} = 5 \times 3 = 15 \quad (d) 6 \times \frac{7}{18} = \frac{7}{3}$$

$$(e) \frac{8}{15} \times 75 = 8 \times 5 = 40 \quad (f) \frac{4}{13} \times 52 = 4 \times 4 = 16$$

$$(g) 7 \times 2 \frac{2}{9} = 7 \frac{20}{9} = \frac{140}{9} = 15 \frac{5}{9}$$

$$(h) 5 \times 3 \frac{6}{9} = 5 \times \frac{33}{9} = 5 \frac{11}{3} = \frac{55}{3}$$

Exercise 6.6

1. (a) $\frac{5}{7}$ (b) $\frac{4}{15}$ (c) $\frac{7}{19}$ (d) $\frac{7}{23}$ (e) $5 \frac{3}{7} = \frac{38}{7}$

(f) $7 \frac{8}{9} \times 1 = 7 \frac{8}{9} = \frac{71}{9}$ (g) 0 (h) 0 (i) 1

(j) 0 (k) $\frac{1}{4}$ (l) $2 \frac{3}{5}$ (m) $4 \frac{7}{15}$ (n) $6 \frac{15}{34}$

Exercise 6.7

1. Cost of one pencil = ₹ $4 \frac{5}{15} = ₹ \frac{65}{15}$

$$\text{Cost of 5 pencil} = \frac{65}{15} \times 5 = \frac{65}{3} = ₹ 21 \frac{2}{3}$$

2. Cost of 1 m cloth = ₹ $204 \frac{3}{4} = ₹ \frac{819}{4}$

$$\begin{aligned} \text{Cost of } 3 \frac{1}{5} \text{ m} &= \frac{16}{5} \text{ m} \times \frac{819}{4} \\ &= \frac{2 \times 819}{5} = \frac{1638}{5} = ₹ 327 \frac{3}{5} \end{aligned}$$

3. Cost of 1 kg orange = ₹ $50 \frac{2}{5} = \frac{252}{5}$

$$\text{Cost of } 4 \frac{1}{6} \text{ kg oranges} = \frac{252}{5} \times \frac{25}{6}$$

$$42 \times 5 = ₹ 210$$

4. Cost of 1l petrol = ₹ $60 \frac{8}{9} = \frac{548}{9}$

$$\text{Cost of 42l petrol} = \frac{548}{9} \times 42$$

$$= \frac{23016}{9} = ₹ 2557 \frac{3}{9} = ₹ 2557.33$$

5. Qty of sugar in 1 bag = $50 \frac{8}{17}$ kg = $\frac{858}{17}$ kg

$$\begin{aligned} \text{Qty of sugar in 34 bags} &= \frac{858}{17} \times 34 \\ &= 858 \times 2 = 1716 \text{ kg} \end{aligned}$$

6. Distance covered in 1 hours = 1001 km

$$\begin{aligned} \text{Distance covered in } 3 \frac{1}{5} \text{ hours} &= \frac{16}{5} \text{ hrs} \\ &= 1001 \frac{16}{5} = \frac{16016}{5} = 3203 \frac{1}{5} \end{aligned}$$

7. Perimeter of square = $4 \times \text{side}$

$$= 4 \times 7 \frac{1}{4} = 4 \times \frac{29}{4} = 29 \text{ m}$$

8. Qty of wheat bag can hold = 66 kg

$$\frac{4}{11} \text{ of bag contains wheat}$$

$$= 66 \frac{4}{11} = 6 \times 4 = 24 \text{ kg wheat}$$

9. Total no. of students = 56

$$\text{No. of students passed} = \frac{3}{8}$$

$$\text{No. of students failed} = 56 \times \frac{3}{8} = 7 \times 3$$

$$= 21 \text{ students}$$

Exercise 6.8

1. (a) $\frac{7}{5}$ (b) $\frac{19}{3}$ (c) $\frac{51}{18}$ (d) $\frac{15}{23}$

(e) 1 (f) $\frac{53}{16}$ (g) $\frac{1}{7}$

(h) $3 \frac{4}{35} = \frac{109}{35} = \frac{35}{109}$ (i) 0

$$(j) 2\frac{7}{14} = \frac{35}{14} = \frac{14}{35} = \frac{2}{5}$$

$$2. (a) \frac{6}{18} \div 4 = \frac{6}{18} \times \frac{1}{4} = \frac{3}{36} = \frac{1}{12}$$

$$(b) \frac{6}{25} \div 12 = \frac{6}{25} \times \frac{1}{12} = \frac{1}{25 \times 2} = \frac{1}{50}$$

$$(c) 4\frac{3}{7} \div 14 = \frac{31}{7} \times \frac{1}{14} = \frac{31}{98}$$

$$(d) 7\frac{5}{9} \div 44 = \frac{68}{9} \times \frac{1}{44} = \frac{34}{9} \times \frac{1}{11} = \frac{34}{99}$$

$$(e) 10\frac{6}{8} \div 1\frac{2}{5} = \frac{86}{8} \div \frac{7}{5} = \frac{86}{8} \times \frac{5}{7} = \frac{430}{56} = \frac{215}{28}$$

$$(f) 100 \div 33\frac{1}{3} \Rightarrow 100 \div \frac{100}{3} = 100 \times \frac{3}{100} = 3$$

$$(g) 66 \div 3\frac{1}{6} = 66 \times \frac{6}{19} = 66 \times \frac{6}{19} = \frac{396}{19}$$

$$(h) 84 \div 7\frac{7}{8} = 84 \div \frac{63}{8} = 84 \times \frac{8}{63} = \frac{672}{63}$$

$$3. 1 \text{ hr} = 60 \text{ min}$$

$$\frac{25}{60} = \frac{5}{12}$$

$$4. 1 \text{ l} = 1000 \text{ ml}$$

$$\frac{425}{1000} = \frac{85}{200} = \frac{17}{40}$$

$$5. 1 \text{ km} = 1000 \text{ m} \quad \frac{379}{1000}$$

Exercise 6.9

$$1. \text{ Cost of } 3\frac{2}{5} \text{ kg sugar} = ₹ 115\frac{3}{4}$$

$$\text{Cost of 1 kg sugar} = 115\frac{3}{4} \div 3\frac{2}{5}$$

$$\frac{463}{4} \div \frac{17}{5} = \frac{463}{4} \times \frac{5}{17} = \frac{2315}{68}$$

$$= ₹ 34 \frac{3}{68}$$

2. Weight of 1 bag = $1 \frac{1}{2}$ kg $\frac{3}{2}$ kg

Bags required to put 30 kg pulse

$$= 30 \div \frac{3}{2} \Rightarrow 30 \times \frac{2}{3} = 10 \times 2 = 20 \text{ bags}$$

3. $125 \frac{1}{17} \div 17$

$$\begin{aligned} \frac{2126}{17} \div 17 &\Rightarrow \frac{2126}{17} \times \frac{1}{17} \\ &= \frac{2126}{289} = 7 \frac{103}{289} \text{ l} \end{aligned}$$

4. Distance covered by bus in $5 \frac{2}{3}$ hours

$$= 185 \frac{1}{4} = \frac{741}{4} \text{ km}$$

Distance covered in 1 hr = $\frac{741}{4} \div \frac{17}{3}$

$$= \frac{741}{4} \times \frac{3}{17} = \frac{2223}{68} = 32 \frac{47}{68} \text{ km}$$

5. $4 \frac{3}{18} \div 9$

$$9 \div \frac{75}{18} = 9 \times \frac{18}{75} = \frac{162}{75} = 2 \frac{12}{75}$$

6. Area of rectangle = $l \times b$

$$86 \frac{4}{5} = 15 \frac{1}{3} \times b$$

$$\frac{434}{5} = \frac{46}{3} \times b$$

$$b = \frac{434}{5} \times \frac{3}{46} = \frac{1302}{230}$$

$$= \frac{651}{115} = 5 \frac{76}{115}$$

7.

Decimals

Exercise 7.1

1. (a) 24.36 = Twenty four point three six
(b) 4.725 = Four point seven two five
(c) 325.46 = Three hundred twenty five point four six
(d) 74.054 = Seventy four point zero five four
(e) 0.642 = Point six four two
(f) 2345.70 = Two thousand three hundred forty five point seven zero
(g) Thirty four thousand five hundred sixty seven point four two five
(h) Seven thousand two hundred point zero eight four
2. (a) 37.08 (b) 140.65 (c) 7.976 (d) 239.84
(e) 500.29 (f) 6315.982 (g) 301.498 (h) 39979.553
3.

| | Integral | Decimal | Integral | Decimal |
|-----|-----------------|----------------|-----------------|----------------|
| (a) | 494 | 085 | (b) 74 | 304 |
| (c) | 425 | 09 | (d) 499 | 6 |
| (e) | 6 | 749 | (f) 2340 | 61 |
| (g) | 140 | 067 | (h) 303 | 030 |
4. (a) $40 + 4 + \frac{3}{10} + \frac{5}{100}$ (b) $60 + 7 + \frac{0}{10} + \frac{8}{100}$
(c) $700 + 40 + 8 + \frac{3}{10} + \frac{5}{100}$
(d) $6000 + 400 + 80 + 5 + \frac{4}{100} + \frac{5}{1000}$
(e) $3000 + 400 + 60 + 7 + \frac{4}{100} + \frac{8}{1000}$
(f) $\frac{5}{100} + \frac{8}{1000}$ (g) $6 + \frac{9}{1000}$

$$(h) 30000 + 4000 + 600 + 70 + 8 + \frac{3}{10} + \frac{9}{100} + \frac{5}{1000}$$

5. (a) 39.536 (b) 70007.097 (c) 445.379 (d) 909.037
 (e) 39668.574

Exercise 7.2

1. (a) 3.60, 484.35 (b) 6.70, 3.05 (c) 0.800, 3.175
 (d) 35.040, 8.068, 94.800 (e) 30.940, 42.800, 4.678
 (f) 3.400, 3.670, 4.358
2. (a) < (b) < (c) < (d) > (e) < (f) > (g) < (h) >
3. (a) 5.05, 5.67, 5.74, 7.89 (b) 0.0004, 0.004, 0.04, 4.04
 (c) 6.006, 6.06, 6.60, 6.66 (d) 74.7, 75.64, 77.8, 77.88
4. (a) 1.1, 0.1, 0.001, 0.0001 (b) 5.55, 5.02, 5.012, 5.005
 (c) 8.88, 8.8, 8.08, 8.00 (d) 4.5, 4.05, 3.9, 3.09

Exercise 7.3

1. (a)
$$\begin{array}{r} 3.6 \\ 7.4 \\ + 42.5 \\ \hline 53.5 \end{array}$$
- (b)
$$\begin{array}{r} 4.05 \\ 34.85 \\ + 62.56 \\ \hline 101.46 \end{array}$$
- (c)
$$\begin{array}{r} 103.42 \\ 8.65 \\ + 72.35 \\ \hline 184.42 \end{array}$$
- (d)
$$\begin{array}{r} 4.674 \\ 18.389 \\ + 49.678 \\ \hline 72.741 \end{array}$$
- (e)
$$\begin{array}{r} 3.4250 \\ 0.0842 \\ + 5.1067 \\ \hline 8.6159 \end{array}$$
- (f)
$$\begin{array}{r} 85.3600 \\ 72.8400 \\ + 9.3562 \\ \hline 167.5562 \end{array}$$

2.

$$\begin{array}{r}
 \text{(a)} \quad 1.900 \\
 \quad 19.590 \\
 + 109.599 \\
 \hline
 \quad 119.990 \\
 \hline
 \underline{251.079}
 \end{array}$$

$$\begin{array}{r}
 \text{(b)} \quad 0.770 \\
 \quad 77.770 \\
 + 7.777 \\
 \hline
 \quad 77.700 \\
 \hline
 \underline{164.017}
 \end{array}$$

$$\begin{array}{r}
 \text{(c)} \quad 7.83 \\
 \quad 21.88 \\
 + 5.74 \\
 \hline
 \quad 13.92 \\
 \hline
 \underline{49.37}
 \end{array}$$

$$\begin{array}{r}
 \text{(d)} \quad 216.05 \\
 \quad 0.742 \\
 + 34.67 \\
 \hline
 \quad 5.745 \\
 \hline
 \underline{257.207}
 \end{array}$$

$$\begin{array}{r}
 \text{(e)} \quad 5.006 \\
 \quad 15.678 \\
 + 308.450 \\
 \hline
 \quad 38.400 \\
 \hline
 \underline{367.534}
 \end{array}$$

$$\begin{array}{r}
 \text{(f)} \quad 14.04 \\
 \quad 0.5004 \\
 + 0.310 \\
 \hline
 \quad 8.354 \\
 \hline
 \underline{23.2004}
 \end{array}$$

$$\begin{array}{r}
 \mathbf{3.} \text{(a)} \quad 425.60 \\
 \quad - 290.74 \\
 \hline
 \quad 134.86
 \end{array}$$

$$\begin{array}{r}
 \text{(b)} \quad 600.00 \\
 \quad - 42.36 \\
 \hline
 \quad 557.64
 \end{array}$$

$$\begin{array}{r}
 \text{(c)} \quad 724.00 \\
 \quad - 305.45 \\
 \hline
 \quad 418.55
 \end{array}$$

$$\begin{array}{r}
 \text{(d)} \quad 2000.000 \\
 \quad - 451.587 \\
 \hline
 \quad 1548.413
 \end{array}$$

$$\begin{array}{r}
 \text{(e)} \quad 743.456 \\
 \quad - 714.054 \\
 \hline
 \quad 29.402
 \end{array}$$

$$\begin{array}{r}
 \text{(f)} \quad 425.740 \\
 \quad - 314.388 \\
 \hline
 \quad 111.352
 \end{array}$$

$$\begin{array}{r}
 \mathbf{4.} \text{(a)} \quad 4.5 \\
 \quad - 3.6 \\
 \hline
 \quad 0.9
 \end{array}$$

$$\begin{array}{r}
 \text{(b)} \quad 5.7 \\
 \quad - 2.9 \\
 \hline
 \quad 2.8
 \end{array}$$

$$\begin{array}{r}
 \text{(c)} \quad 0.83 \\
 \quad - 0.57 \\
 \hline
 \quad 0.26
 \end{array}$$

$$\begin{array}{r}
 \text{(d)} \quad 5.62 \\
 \quad - 1.59 \\
 \hline
 \quad 4.03
 \end{array}$$

$$\begin{array}{r} \text{(e)} \quad 8.36 \\ - 4.59 \\ \hline 3.77 \end{array}$$

$$\begin{array}{r} \text{(f)} \quad 5.542 \\ - 2.374 \\ \hline 3.168 \end{array}$$

$$\begin{array}{r} \mathbf{5.} \quad 94.42 \\ - 55.36 \\ \hline 39.06 \end{array}$$

$$\begin{array}{r} \mathbf{6.} \quad 375.36 \\ - 68.45 \\ \hline 306.91 \end{array}$$

$$\begin{array}{r} \mathbf{7.} \quad 124.306 \\ - 89.424 \\ \hline 34.882 \end{array}$$

$$\begin{array}{r} 354.060 \\ + 34.882 \\ \hline 388.942 \end{array}$$

$$\begin{array}{r} \mathbf{8.} \quad 70.000 \\ - 29.154 \\ \hline 40.846 \end{array}$$

Exercise 7.4

$$\begin{array}{r} \mathbf{1. (a)} \quad 31.046 \\ \quad \quad \times 5 \\ \hline 155.23 \end{array}$$

$$\begin{array}{r} \text{(b)} \quad 710.71 \\ \quad \quad \times 72 \\ \hline 51171.12 \end{array}$$

$$\begin{array}{r} \text{(c)} \quad 623.485 \\ \quad \quad \times 7 \\ \hline 4364.395 \end{array}$$

$$\begin{array}{r} \text{(d)} \quad 623.8 \\ \quad \quad \times 25 \\ \hline 3119 \\ 12476 \times \\ \hline 15595 \end{array}$$

$$\begin{array}{r} \text{(e)} \quad 3245.42 \\ \quad \quad \times 38 \\ \hline 2596336 \\ 973626 \times \\ \hline 123325.96 \end{array}$$

$$\begin{array}{r} \text{(f)} \quad 968.211 \\ \quad \quad \times 75 \\ \hline 4841055 \\ 6777477 \\ \hline 72615.825 \end{array}$$

$$\begin{array}{r}
 \text{(g)} \quad 121.3 \\
 \quad \times 127 \\
 \hline
 \quad 8491 \\
 \quad 2426 \times \\
 \quad 1213 \times \times \\
 \hline
 15405.1
 \end{array}$$

$$\begin{array}{r}
 \text{(h)} \quad 246.08 \\
 \quad \times 436 \\
 \hline
 \quad 147648 \\
 \quad 73824 \times \\
 \quad 98432 \times \times \\
 \hline
 107290.88
 \end{array}$$

$$\begin{array}{r}
 \text{(i)} \quad 321.428 \\
 \quad \times 544 \\
 \hline
 \quad 1285712 \\
 \quad 1285712 \times \\
 \quad 1607140 \times \times \\
 \hline
 174856.832
 \end{array}$$

$$\begin{array}{r}
 \text{2. (a)} \quad 6.4 \\
 \quad \times 4 \\
 \hline
 25.6
 \end{array}$$

$$\begin{array}{r}
 \text{(b)} \quad 6.04 \\
 \quad \times 15 \\
 \hline
 90.6
 \end{array}$$

$$\begin{array}{r}
 \text{(c)} \quad 34.06 \\
 \quad \times 124 \\
 \hline
 \quad 13624 \\
 \quad 6812 \times \\
 \quad 3406 \times \times \\
 \hline
 4223.44
 \end{array}$$

$$\begin{array}{r}
 \text{(d)} \quad 5.67 \\
 \quad \times 129 \\
 \hline
 \quad 5103 \\
 \quad 1134 \times \\
 \quad 567 \times \times \\
 \hline
 731.43
 \end{array}$$

$$\begin{array}{r}
 \text{(e)} \quad 356.74 \\
 \quad \times 376 \\
 \hline
 \quad 214044 \\
 \quad 249718 \times \\
 \quad 107022 \times \times \\
 \hline
 134134.24
 \end{array}$$

$$\begin{array}{r}
 \text{(f)} \quad 76.05 \\
 \quad \times 425 \\
 \hline
 \quad 38025 \\
 \quad 1521 \times \\
 \quad 3042 \times \times \\
 \hline
 32321.25
 \end{array}$$

$$\begin{array}{r}
 \text{(g)} \quad 121.42 \\
 \quad \times 35 \\
 \hline
 \quad 60710 \\
 \quad 36426 \times \\
 \hline
 4249.7
 \end{array}$$

$$\begin{array}{r}
 \text{(h)} \quad 879.354 \\
 \quad \times 44 \\
 \hline
 \quad 3517.416 \\
 \quad 3517416 \times \\
 \hline
 38691.576
 \end{array}$$

3. (a) 345.5 (b) 47.25
 (c) 654 (d) 7
 (e) 674.5 (f) 1850
 (g) 7945 (h) 543420
 (i) 64345 (j) 0.12
 (k) 4.89 (l) 1.388
 (m) 6.1232 (n) 201.356
 (o) 881.13 (p) $0.08 \times 0.6 = 0.048$
 (q) 14.186×0.6 (r) $0.235 \times 7.6 \times 0.4$
 $= 8.5116$ $= 1.786 \times 0.4$
 $= 0.7144$

Exercise 7.5

1. (a)
$$\begin{array}{r} 3.5 \\ \times 3.5 \\ \hline 12.25 \end{array}$$

(b)
$$\begin{array}{r} 4.8 \\ \times 0.5 \\ \hline 2.4 \end{array}$$

(c)
$$\begin{array}{r} 6.4 \\ \times 30.4 \\ \hline 194.56 \end{array}$$

(d)
$$\begin{array}{r} 8.6 \\ \times 4.5 \\ \hline 38.7 \end{array}$$

(e)
$$\begin{array}{r} 5.4 \\ \times 0.4 \\ \hline 2.16 \end{array}$$

(g)
$$\begin{array}{r} 45.9 \\ \times 14.8 \\ \hline 679.32 \end{array}$$

(h)
$$\begin{array}{r} 67.09 \\ \times 23.014 \\ \hline 1544.00926 \end{array}$$

(i)
$$\begin{array}{r} 23.5 \\ \times 25.55 \\ \hline 600.425 \end{array}$$

$$\begin{array}{r} 2. \text{ (a)} \quad 0.127 \\ \quad \times 0.35 \\ \hline 0.04445 \end{array}$$

$$\begin{array}{r} \text{ (b)} \quad 3.465 \\ \quad \times 0.142 \\ \hline 6930 \\ 13860 \times \\ 3465 \times \times \\ \hline 0.49203 \end{array}$$

$$\begin{array}{r} \text{ (c)} \quad 84.672 \\ \quad \times 3.09 \\ \hline 762048 \\ 00000 \times \\ 254016 \times \times \\ \hline 261.63648 \end{array}$$

$$\begin{array}{r} \text{ (d)} \quad 145.005 \\ \quad \times 91.04 \\ \hline 580020 \\ 000000 \times \\ 145005 \times \times \\ 1305045 \times \times \times \\ \hline 13201.2552 \end{array}$$

$$\begin{array}{r} \text{ (e)} \quad 0.007 \\ \quad \times 15.51 \\ \hline 0007 \\ 0035 \times \\ 0035 \times \times \\ 007 \times \times \times \\ \hline 0.10857 \end{array}$$

$$\begin{array}{r} \text{ (f)} \quad 60.042 \\ \quad \times 2.0405 \\ \hline 300210 \\ 00000 \times \\ 240168 \times \times \\ 00000 \times \times \times \\ 120084 \times \times \times \times \\ \hline 122.515701 \end{array}$$

3. (a) 4.5 (b) 17.54 (c) 9.6 (d) 3.9
 (e) 1 (f) 0 (g) 0 (h) 745.62

4. (a) $(6.7 \times 6.7) \times 4.2$ (b) $4.9 \times (8.5 \times 8.5)$
 44.89×4.2 4.9×72.25
 $= 188.538$ $= 354.025$

(c) $2.5 \times 2.5 \times 2.5$ (d) $3.37 \times 33.7 \times 337$
 $= 15.625$ $= 38272.753$

(e) $1.042 \times 3.04 \times 4.67$ (f) 0.0252×34.086
 $= 14.7930656$ $= 0.8589672$

Exercise 7.6

1. (a) $41.05 \div 5$

$$\begin{array}{r} 5 \overline{) 41.05} \left(8.21 \right. \\ \underline{-40} \\ 10 \\ \underline{-10} \\ 5 \\ \underline{-5} \\ \times \end{array}$$

Ans = 8.21

(b) $49.84 \div 7$

$$\begin{array}{r} 7 \overline{) 49.84} \left(7.12 \right. \\ \underline{-49} \\ 8 \\ \underline{-7} \\ 14 \\ \underline{-14} \\ \times \end{array}$$

Ans = 7.12

(c) $3 \overline{) 459.54} \left(153.18 \right.$

$$\begin{array}{r} \underline{-3} \\ 15 \\ \underline{-15} \\ 9 \\ \underline{-9} \\ 5 \\ \underline{-3} \\ 24 \\ \underline{-24} \\ \times \end{array}$$

Ans = 153.18

(d) $1.64 \overline{) 21.976} \left(13.4 \right.$

$$\begin{array}{r} \underline{-164} \\ 557 \\ \underline{-492} \\ 656 \\ \underline{-656} \\ \times \end{array}$$

Ans = 13.4

(e) $62.3 \overline{) 560.7} \left(9 \right.$

$$\begin{array}{r} \underline{-5607} \\ \times \end{array}$$

Ans = 9

(f) $1.5 \overline{) 0.120} \left(0.08 \right.$

$$\begin{array}{r} \underline{-0.120} \\ \times \end{array}$$

Ans = 0.08

(g) $\frac{60.72}{0.12} \Rightarrow \frac{6072}{12} \times \frac{100}{100} = 506$

(h) $\frac{8.016}{0.24} \Rightarrow \frac{8016 \times 100}{24 \times 1000} = \frac{334}{10} = 33.4$

$$\begin{aligned}
 & \text{(i)} \quad \frac{1.008}{14} = \frac{1008}{14 \times 1000} = \frac{72}{1000} = 0.072 \\
 & \text{(j)} \quad \frac{0.072}{8} = \frac{72}{8 \times 1000} = \frac{9}{1000} = 0.009 \\
 & \text{(k)} \quad \frac{3.249}{9} = \frac{3249}{9 \times 1000} = \frac{361}{1000} = 0.361 \\
 & \text{(l)} \quad \frac{0.228}{0.38} = \frac{228 \times 100}{38 \times 1000} = \frac{6}{10} = 0.6 \\
 \text{2. (a)} & \quad \frac{25.42}{10} = 2.542 & \text{(b)} \quad \frac{56.7}{10} = 5.67 \\
 \text{(c)} & \quad \frac{425.352}{10} = 42.5352 & \text{(d)} \quad \frac{7.425}{100} = 0.07425 \\
 \text{(e)} & \quad \frac{605.4}{100} = 6.054 & \text{(f)} \quad \frac{0.545}{100} = 0.00545 \\
 \text{(g)} & \quad \frac{6.544}{100} = 0.06544 & \text{(h)} \quad \frac{0.459}{1000} = 0.000459 \\
 \text{(i)} & \quad \frac{0.009}{1000} = 0.000009 \\
 \text{(j)} & \quad \frac{69.452}{20} = \frac{69452}{20 \times 1000} = \frac{3472.6}{1000} = 3.4726 \\
 \text{(k)} & \quad \frac{875.24}{40} = \frac{87524}{40 \times 1000} = \frac{2188.1}{100} = 21.881 \\
 \text{(l)} & \quad \frac{94.24}{80} = \frac{9424}{80 \times 100} = \frac{117.8}{100} = 1.178 \\
 \text{(m)} & \quad \frac{1.35}{900} = \frac{135}{900 \times 100} = \frac{0.15}{100} = 0.0015 \\
 \text{(n)} & \quad \frac{63.07}{7000} = \frac{6307}{7000 \times 100} = \frac{0.901}{100} = 0.00901 \\
 \text{(o)} & \quad \frac{984.05}{5000} = \frac{98405}{5000 \times 1000} = \frac{19.681}{100} = 0.19681
 \end{aligned}$$

Exercise 7.8

1. Cost of 1 m cloth = ₹ 336.77

$$\begin{aligned}\text{Cost of 6.7 m cloth} &= 336.77 \times 6.7 \\ &= ₹ 2256.359\end{aligned}$$

2. Money distributed among players = ₹ 560

$$\text{Money received by each player} = ₹ 35$$

$$\begin{aligned}\text{Number of players} &= 560 \div 35 \\ &= 16 \text{ players}\end{aligned}$$

3. Qty of oil = 478.5 l

$$\text{Qty of oil in 1 tin} = 16.5 \text{ l}$$

$$\begin{aligned}\text{No. of tins required} &= 478.5 \div 16.5 \\ &= 29 \text{ tins}\end{aligned}$$

4. Fat in 10 kg of oil = 2.368 kg

$$\text{Fat in 1 kg of oil} = \frac{2.368}{10} = 0.2368$$

$$\begin{aligned}\text{Fat in 155 kg of oil} &= 0.2368 \times 155 \\ &= 36 \text{ kg } 704 \text{ g}\end{aligned}$$

5. $261.36 \div 17.6 = 14.85$

6. Distance covered by car in 1 hr = 80.40 km

$$\begin{aligned}\text{Distance covered by car in 23 hrs} &= 80.40 \times 23 \\ &= 1849 \text{ km } 2 \text{ m}\end{aligned}$$

7. Length of cloth = 45 m

$$\text{Length of each piece} = 0.03 \text{ m}$$

$$\begin{aligned}\text{No. of pieces} &= 45 \div 0.03 \\ &= 1500 \text{ pieces}\end{aligned}$$

8. Total sum of money = ₹ 4278

$$\text{No. of workers} = 24$$

$$\begin{aligned}\text{Amt. of money each workers get} \\ &= 4278 \div 24 = ₹ 178.25\end{aligned}$$

9. Cost of 9.75 m ribbon = ₹ 460

$$\begin{aligned}\text{Cost of 1 m ribbon} &= 460 \div 9.75 \\ &= ₹ 47.18\end{aligned}$$

10. Cost of 18 kg oranges = ₹ 267.30

$$\begin{aligned}\text{Cost of 1 kg orange} &= 267.30 \div 18 \\ &= ₹ 14.85\end{aligned}$$

 **MCQ's**

1. (c) 0.019 2. (c) 23.5
3. (d) 5 4. (a) 0.0005 (0.000025 ÷ 0.05)

 **Mental Math**

1. (a) 9.0012, 9.0013, 9.0014 (b) 6.000, 6.001, 6.002
2. $74.59 - 35.74 = 38.85$
3. (a) $6.051 = 6.051$ (b) $12.15 < 12.45$
4. (a) 45.5 (b) 1537.5 (c) 84.084 (d) 253.836

8.

Rounding Off Numbers

Exercise 8.1

1. (a) $76 \rightarrow 80$ (e) $362 \rightarrow 360$
 (b) $47 \rightarrow 50$ (f) $624 \rightarrow 620$
 (c) $44 \rightarrow 40$ (g) $193 \rightarrow 190$
 (d) $87 \rightarrow 90$ (h) $117 \rightarrow 120$
2. (a) 600 (b) 800 (c) 800 (d) 700
 (e) 4600 (f) 7300 (g) 3100 (h) 6200
3. (a) 8000 (b) 6000 (c) 4000 (d) 18000
 (e) 42000 (f) 100000 (g) 84000 (h) 627000
4. (a) 70000 (b) 390000 (c) 70000 (d) 30000
 (e) 430000 (f) 730000 (g) 860000 (h) 840000

Exercise 8.2

1. (a) 40 (b) 70 (c) 80 (d) 60
 (e) 310 (f) 400 (g) 730 (h) 820

- | | | | | |
|----|------------|------------|------------|-----------|
| | (i) 4300 | (g) 4000 | (k) 5100 | (l) 6300 |
| 2. | (a) 200 | (b) 700 | (c) 500 | (d) 400 |
| | (e) 4200 | (f) 4300 | (g) 7900 | (h) 3900 |
| 3. | (a) 4000 | (b) 9000 | (c) 3000 | (d) 7000 |
| | (e) 15000 | (f) 27000 | (g) 87000 | (h) 90000 |
| 4. | (a) 36 | (b) 72 | (c) 345 | (d) 328 |
| | (e) 627 | (f) 7 | (g) 54 | (h) 42 |
| 5. | (a) 28.7 | (b) 455.7 | (c) 19.1 | (d) 432.6 |
| | (e) 235.6 | (f) 1235.8 | (g) 867 | (h) 11.2 |
| 6. | (a) 72.39 | (b) 46.89 | (c) 345.07 | (d) 39.87 |
| | (e) 435.59 | (f) 384.06 | (g) 239.88 | (h) 80.00 |

9.

Averages

$$1. \frac{10 + 12 + 13 + 15 + 25}{5} = \frac{75}{5} = 15$$

$$2. \frac{4.5 + 6.2 + 7.4 + 6.9}{4} = \frac{25}{4} = 6.25$$

$$3. 6\frac{2}{5}, 2\frac{7}{10}, 3\frac{4}{5}, 7\frac{3}{10}$$

$$= \frac{32}{5} + \frac{27}{10} + \frac{19}{5} + \frac{73}{10}$$

$$= \frac{64 + 27 + 38 + 73}{10} = \frac{202}{10} = \frac{101}{5} = 5\frac{1}{5}$$

$$4. \text{Even number b/w 5 and 15}$$

$$= \frac{6 + 8 + 10 + 12 + 14}{5} = \frac{50}{5} = 10$$

$$5. \text{Odd number b/w 34 and 50}$$

$$\text{No. of odd no.} = 8$$

$$= \frac{35 + 37 + 39 + 41 + 43 + 45 + 47 + 49}{8}$$

$$\text{Avg.} = \frac{336}{8} = 42$$

6. First seven multiples of 2

$$= \frac{2 + 4 + 6 + 8 + 10 + 12 + 14}{7}$$

$$= \frac{56}{7} = 8 \text{ Ans.}$$

7. $\frac{4.4 + 6.7 + 5.8 + 4.3 + 2.1}{5} = \frac{23.3}{5}$

Avg rainfall = 4.66 cm

8. 15 yrs 4 months = 184 months

16 yrs 6 months = 198 months

13 yrs 10 months = 166 months

17 yrs 6 months = 208 months

16 yrs 3 months = 195 months

14 yrs 7 months = 175 months

$$= \frac{184 + 198 + 166 + 208 + 195 + 175}{6}$$

$$= \frac{1126}{6} = 187.6$$

Avg age = 15 years 6 months

9. $\frac{14 + 15.25 + 12.26 + 22.34}{4}$

$$\frac{63.85}{4} = 15.96 \Rightarrow 15 \text{ m } 96 \text{ cm}$$

10. (a) $\frac{90 + 67 + 72 + 84 + 62}{5} = \frac{375}{5}$

Avg marks = 75

(b) 2 Subjects, Maths, Science

(c) Hindi, Eng, SSt, \Rightarrow 3 Subjects

10.

Ratio

Exercise 10.1

1. (a) $10 : 50 = \frac{10}{50} = \frac{2}{10} = \frac{1}{5} = 1 : 5$
- (b) $18 : 38 = \frac{18}{38} = \frac{9}{19} = 9 : 19$
- (c) $13 \text{ g} : 91 \text{ g} = \frac{13}{91} = \frac{1}{7} = 1 : 7$
- (d) $39 \text{ m} : 27 \text{ m} = \frac{39}{27} = \frac{13}{9} = 13 : 9$
- (e) $30 \text{ sec} : 1 \text{ hr} = 30 : 3600$
 $\frac{30}{3600} = \frac{1}{120} = 1 : 120$
- (f) $5 \text{ days} : 3 \text{ weeks}; \quad 3 \text{ weeks} = 7 \times 3 = 21 \text{ day}$
 $\frac{5}{21} = 5 : 21$
- (g) $3 \text{ years} = 3 \times 12 = 36 \text{ months}$
 $\frac{5}{36} = 5 : 36$
- (h) $1 \text{ hr to } 1 \text{ day}$
 $1 \text{ day} = 24 \text{ hours}$
 $\frac{1}{24} = 1 : 24$
2. (a) No. of Boys = 18, No. of girls = 34
Boys to Girls = $\frac{18}{34} = \frac{9}{17} = 9 : 17$
- (b) Girls to Boys = $\frac{34}{18} = \frac{17}{9} = 17 : 9$
- (c) Total students = $18 + 34 = 52$

$$\begin{aligned} \text{Girls to total students} &= \frac{34}{52} = \frac{17}{26} \\ &= 17 : 26 \end{aligned}$$

$$(d) \text{ Boys to total students} = \frac{18}{52} = \frac{9}{26} = 9 : 26$$

3. Lotus to lily flowers = 4 : 7

No. of lily flowers = 28

$$\text{No. of lotus flowers} = \frac{4}{7} \times 28$$

$$= 4 \times 4 = 16 \text{ flowers}$$

4. Mohan will get = $\frac{5}{12} \times 1200$

$$= 5 \times 100 = ₹ 500$$

$$\text{Sohan will get} = \frac{7}{12} \times 1200$$

$$= 7 \times 100 = ₹ 700$$

5. Age of Jagdish = 24 years

Age of Ramesh = x years

$$\frac{4}{5} = \frac{24}{x}$$

$$4x = 24 \times 5$$

$$x = \frac{24 \times 5}{4} = 6 \times 5 = 30 \text{ years.}$$

6. $4x + 5x + 6x = 25$

$$15x = 25$$

$$x = \frac{25}{15} = 1.67$$

$$4 \times 1.67 = 6.68 \text{ cm} \quad 5 \times 1.67 = 8.35 \text{ cm,}$$

$$6 \times 1.67 = 10.02 \text{ cm}$$

7. $\frac{5}{7} = \frac{21}{b} \Rightarrow 5b = 7 \times 21$

$$b = \frac{147}{5} = 29.4 \text{ m}$$

$$8. \frac{5}{6} \Rightarrow \frac{\text{Oranges}}{\text{Lemons}}$$

$$\begin{aligned} \text{No. of Lemons} &= \frac{6}{11} \times 660 \\ &= 6 \times 60 = 360 \text{ lemons.} \end{aligned}$$

Mental Math

$$\begin{aligned} 1. \quad & 6\frac{2}{5}, 4\frac{1}{10}, 3\frac{1}{5}, 6\frac{2}{10} \\ & \frac{14}{5} + \frac{41}{10} + \frac{16}{5} + \frac{62}{10} \\ & = \frac{28 + 41 + 32 + 62}{10} = \frac{163}{10} = 16.3 \\ & = \frac{16.3}{4} = 4.075 \end{aligned}$$

$$2. \quad \frac{1+2+3+4+5+6+7+8+9}{9} = \frac{45}{9}$$

$$\text{Avg} = 5$$

$$3. \quad \frac{51+53+55+57+59}{5} = \frac{275}{5} = 55$$

$$\begin{aligned} 4. \quad & 4, 8, 12, 16, 20, 24 \\ \Rightarrow & \frac{4+8+12+16+20+24}{6} \\ & = \frac{84}{6} = 14 \end{aligned}$$

$$5. \quad \frac{40+72+48+65+55}{5} = \frac{280}{5}$$

$$\text{Avg speed} = 56 \text{ km/hr.}$$

$$6. \quad \frac{16.80+15.45+13.44+18.46}{4}$$

$$\Rightarrow \frac{64.15}{4} = 16.04$$

$$\text{Avg length} = 16 \text{ m } 3 \text{ cm}$$

11.

Percentages

Exercise 11.1

1. (a) $45\% = \frac{45}{100} = \frac{9}{20}$ (b) $76\% = \frac{76 \div 4}{100 \div 4} = \frac{19}{25}$
(c) $55\% = \frac{55 \div 5}{100 \div 5} = \frac{11}{20}$ (d) $32\% = \frac{32 \div 4}{100 \div 4} = \frac{8}{25}$
(e) $2\frac{1}{2}\% = \frac{5}{2 \times 100} = \frac{5}{200} = \frac{1}{40}$
(f) $6\frac{1}{3}\% = \frac{19}{3 \times 100} = \frac{19}{300}$
(g) $14\frac{2}{4}\% = \frac{58}{4 \times 100} = \frac{29}{4 \times 50} = \frac{29}{200}$
(h) $24.5\% = \frac{24.5}{100} = \frac{245}{100 \times 10} = \frac{49}{100 \times 2} = \frac{49}{200}$
(i) $125\% = \frac{125}{100} = \frac{25}{20} = \frac{5}{4}$
(j) $4.6\% = \frac{46}{100 \times 10} = \frac{23}{100 \times 5} = \frac{23}{500}$
(k) $44.5\% = \frac{445}{100 \times 10} = \frac{89}{100 \times 5} = \frac{89}{200}$
(l) $8\% = \frac{8}{100} = \frac{2}{25}$
2. (a) $26.4\% = \frac{264}{100 \times 10} = \frac{264}{1000} = 0.264$
(b) $140\% = \frac{140}{100} = 1.40$
(c) $0.36\% = \frac{36}{100 \times 100} = \frac{36}{10000} = 0.0036$
(d) $25.8\% = \frac{258}{100 \times 10} = \frac{258}{1000} = 0.258$

$$(e) 18\% = \frac{18}{100} = 0.18 \quad (f) 105\% = \frac{105}{100} = 1.05$$

$$(g) 0.3\% = \frac{3}{100 \times 10} = \frac{3}{1000} = 0.003$$

$$(h) 2.75\% = \frac{275}{100 \times 100} = \frac{275}{10000} = 0.0275$$

$$(i) 6.25\% = \frac{625}{100 \times 100} = \frac{625}{10000} = 0.0625$$

$$(j) 4.5\% = \frac{45}{100 \times 10} = \frac{45}{1000} = 0.045$$

$$(k) 235\% = \frac{235}{100} = 2.35 \quad (l) 180\% = \frac{180}{100} = 1.80$$

3. (a) $\frac{1}{5} = \frac{1}{5} \times 100 = 20\%$

(b) $\frac{3}{8} \times 100 = \frac{3}{2} \times 25 = \frac{75}{2} = 37.5\%$

(c) $\frac{7}{15} \times 100 = \frac{7}{3} \times 20 = \frac{140}{3} = 46.67\%$

(d) $\frac{9}{20} \times 100 = 9 \times 5 = 45\%$ (e) $\frac{23}{100} \times 100 = 23\%$

(f) $\frac{51}{100} \times 100 = 51\%$ (g) $\frac{3}{10} \times 100 = 30\%$

(h) $\frac{37}{40} \times 100 \Rightarrow \frac{37 \times 20}{8} \Rightarrow \frac{37 \times 5}{2} = 92.5\%$

(i) $3\frac{1}{8} \times 100 \Rightarrow \frac{25}{8} \times 100 \Rightarrow \frac{25 \times 25}{2} = 312.5\%$

(j) $2\frac{2}{10} \Rightarrow \frac{22}{10} \times 100 = 220\%$

(k) $5\frac{2}{15} = \frac{77}{15} \times 100 = 513.33\%$

(l) $8\frac{3}{4} = \frac{35}{4} \times 100 = 35 \times 25 = 875\%$

4. (a) $0.5 = \frac{5}{10} \times 100 = \frac{500}{10} = 50\%$

$$(b) 3.8 = \frac{38}{10} \times 100 = \frac{3800}{10} = 380\%$$

$$(c) 0.04 = \frac{4}{100} \times 100 = 4\%$$

$$(d) 0.325 = \frac{325}{1000} \times 100 = 32.5\%$$

$$(e) 1.05 = \frac{105}{100} \times 100 = 105\%$$

$$(f) 0.08 = \frac{8}{100} \times 100 = 8\%$$

$$(g) 0.25 = \frac{25}{100} \times 100 = 25\%$$

$$(h) 2.5 = \frac{25}{10} \times 100 = \frac{2500}{10} = 250\%$$

$$5. (a) 110\% \times 155 = \frac{110}{100} \times 155 \\ = \frac{110}{20} \times 31 = 170.5$$

$$(b) 8\% \text{ of } 346 = \frac{8}{100} \times 346 \\ = \frac{8}{50} \times 173 = \frac{1384}{50} = 27.68$$

$$(c) 25\% \text{ of } 440 = \frac{25}{100} \times 440 \\ = \frac{1}{4} \times 440 = 110$$

$$(d) 5.4\% \text{ of } 750 = \frac{54}{100 \times 10} \times 750 \\ \frac{40500}{1000} = 40.5$$

$$(e) 14\% \text{ of } 12.6 = \frac{14}{100} \times \frac{126}{10} = \frac{1764}{1000} = 1.764$$

$$(f) 29\% \times 29 = \frac{29}{100} \times 29 = \frac{841}{100} = 8.41$$

6. (a) 25% of 80 km

$$1 \text{ km} = 1000 \text{ m}$$

$$80 \text{ km} = 80000 \text{ m}$$

$$\frac{25}{100} \times 80000 = 20000 \text{ m} = 20 \text{ km}$$

$$(b) 40\% \text{ of } 30 \text{ kg} = \frac{40}{100} \times 30 = \frac{1200}{100} = 12 \text{ kg}$$

$$(c) 50\% \text{ of } 1 \text{ year} = \frac{50}{100} \times 1 = \frac{1}{2} \times 1 = \frac{1}{2} \text{ yrs} = 6 \text{ months}$$

$$(d) 15\% \text{ of } 1 \text{ litre} \quad \frac{15}{100} \times 1 = 0.15 \text{ l}$$

$$(e) 70\% \times 2 \text{ kg} \Rightarrow \frac{70}{100} \times 2 = \frac{140}{100} = 1.4 \text{ kg}$$

$$(f) 13\% \text{ of } 750 \text{ g} \\ \frac{13}{100} \times 750 = \frac{9750}{100} = 97.5 \text{ g}$$

$$7. (a) \frac{9}{30} \times 100 = \frac{3}{10} \times 100 = 30\%$$

$$(b) \frac{12}{60} \times 100 = \frac{1}{5} \times 100 = 20\%$$

$$(c) \frac{29.4}{42} \times 100 \Rightarrow \frac{294}{42 \times 10} \times 100 \\ = 7 \times 10 = 70\%$$

$$(d) \frac{104}{65} \times 100 \Rightarrow \frac{104}{13} \times 20 \Rightarrow 8 \times 20 = 160\%$$

$$(e) 1 \text{ km} = 1000 \text{ m} \\ \frac{1000 \times 100}{400} = 2.5 \times 100 = 250\%$$

$$(f) 1 \text{ m} = 100 \text{ cm} \\ \frac{100}{20} \times 100 = 100 \times 5 = 500\%$$

$$(g) 1 \text{ cm} = 10 \text{ mm}$$

$$\frac{10}{4} \times 100 = 10 \times 25 = 250\%$$

(h) $1 \text{ kg} = 1000\text{g}$
 $= \frac{25000}{625} \times 100 = 40 \times 100 = 4000\%$

8. 7% of 24 $\Rightarrow \frac{7}{100} \times 24 = \frac{168}{100} = 1.68$

9. 4% of 6.4
 $\frac{4}{100} \times \frac{64}{10} = \frac{256}{1000} = 0.256$

10. $1 \text{ Rs} = 100 \text{ ps}$
 $25 \text{ Rs} = 2500 \text{ ps}$
 $\frac{2500}{12} \times 100 = 208.34 \times 100$
 $= \frac{20834}{100} = ₹ 208.34$

11. $\frac{15}{100} \times 225 = \frac{3375}{100} = 33.75 \text{ g}$

12. No. of girls = 40% of 70
 $= \frac{40}{100} \times 70 = 28 \text{ girls}$

No. of boys = $70 - 28 = 42 \text{ boys}$

13. Total marks = 600
Marks obtained = 426
 $\Rightarrow \frac{426}{600} \times 100 = 71\%$

14. Total earning per month ₹14400
Saving per month = 28% of 14400
 $= \frac{28}{100} \times 14400 = ₹ 4032$

Total expenditure = $14400 - 4032$
 $= ₹ 10368$

❖ Mental Math

1. (a) $26.4\% = \frac{264}{100} = 2.64$ (b) $150\% = \frac{150}{100} = 1.5$
(c) $0.5\% = \frac{5}{100 \times 10} = 0.005$ (d) $360\% = \frac{360}{100} = 3.6$
2. (a) $\frac{1}{5} \times 100 = 20\%$ (b) $\frac{3}{8} \times 100 = 37.5\%$
(c) $\frac{3}{10} \times 100 = 30\%$ (d) $\frac{37}{40} \times 100 = 92.5\%$
3. (a) 110% of 150
 $\frac{110}{100} \times 150 = \frac{16500}{100} = 165$
(b) 9% of 300
 $\frac{9}{100} \times 300 = 9 \times 3 = 27$
(c) 44% of 50
 $\frac{44}{100} \times 50 = \frac{44}{2} = 22$
4. (a) $\frac{9}{30} \times 100 = \frac{3}{10} \times 100 = 30\%$
(b) $\frac{104}{65} \times 100 = \frac{104}{13} \times 20 = 160\%$
(c) $\frac{15}{60} \times 100 = \frac{1}{4} \times 100 = 25\%$

12.

Profit and Loss

Exercise 12.1

1. (a) CP = ₹ 425, SP = ₹ 540
Profit = SP - CP
= 540 - 425 = ₹ 115

(b) $CP = ₹1080, SP = ₹910$

$$\begin{aligned} \text{Loss} &= CP - SP \\ &= 1080 - 910 = ₹170 \end{aligned}$$

(c) $CP = ₹5205, SP = ₹4455$

$$\text{Loss} = 5205 - 4455 = ₹750$$

(d) $CP = ₹1790, SP = ₹1410$

$$\text{Loss} = 1790 - 1410 = ₹380$$

2. (a) $CP = ₹990, P = ₹110, SP = ?$

$$\begin{aligned} SP &= CP + \text{Profit} \\ &= 990 + 110 \Rightarrow SP = ₹1100 \end{aligned}$$

(b) $CP = ₹2040, \text{Loss} = ₹250$

$$\begin{aligned} SP &= CP - \text{Loss} \\ &= 2040 - 250 \Rightarrow ₹1790 \end{aligned}$$

(c) $CP = ₹3425, \text{Loss} = ₹315$

$$SP = 3425 - 315 = ₹3110$$

(d) $CP = ₹2670, P = ₹340$

$$SP = 2670 + 340 = ₹3010$$

3. (a) $SP = ₹680, P = ₹90$ (b) $SP = ₹2456, \text{Loss} = ₹125$

$$\begin{aligned} CP &= SP - \text{Profit} & CP &= SP + \text{Loss} \\ SP &= 680 - 90 = ₹590 & &= 2456 + 125 = ₹2581 \end{aligned}$$

(c) $SP = ₹3768, \text{Loss} = ₹142$ (d) $SP = ₹2877, P = ₹235$

$$\begin{aligned} CP &= 3768 + 142 & CP &= 2877 - 235 \\ &= ₹3910 & &= ₹2642 \end{aligned}$$

4. Cost of chair = ₹580

$$\text{Loss on selling chair} = ₹35$$

$$\text{SP of chair} = 580 - 35 = ₹545$$

5. $CP = ₹15800$ Transport cost = ₹250

$$\text{Total CP} = 15800 + 250 = ₹16050$$

$$SP = ₹17350$$

$$\text{Profit} = 17350 - 16050 = ₹1300$$

6. SP of 20 books $20 \times 250 = ₹5000$

Profit earned = ₹100

$$CP = 5000 - 100 = ₹ 4900$$

7. SP of table = ₹8010

Loss incurred = ₹140

$$CP = ₹ 8010 + 140 = ₹ 8150$$

8. SP = ₹17620

Profit = ₹390

Cost price of washing machine

$$= 17620 - 390 \Rightarrow CP = ₹17230$$

9. CP of goggles bought = ₹2357

SP of goggles = ₹2276

Loss incurred on selling goggles

$$= 2357 - 2276 = ₹ 81$$

10. CP of cricket bat = ₹880

SP of cricket bat = ₹1090

$$Profit = 1090 - 880 = ₹ 210$$

13.

Simple Interest

Exercise 13.1

$$1. SI = \frac{P \times R \times T}{100} \Rightarrow \frac{900 \times 10 \times 2}{100} \\ = 9 \times 10 \times 2 = ₹180$$

2. P = ₹1600, R = 12% T = 1 yr

$$SI = \frac{1600 \times 12 \times 1}{100} = 16 \times 12 \Rightarrow ₹192$$

3. P = ₹2500, R = 5%, T = 5 yrs

$$SI = \frac{2500 \times 5 \times 5}{100} = 25 \times 25 = ₹ 625$$

4. $P = ₹8000, R = 5\%, T = 1 \text{ yr}$

$$SI = \frac{8000 \times 5 \times 1}{100} \Rightarrow 80 \times 5 \times 1 = ₹400$$

$$\text{Amount} = P + SI = 8000 + 400 \\ = ₹8400$$

5. $P = ₹15000, R = 10\%, T = 2 \text{ years}$

$$SI = \frac{15000 \times 10 \times 2}{100} = \frac{300000}{100}$$

$$SI = ₹3000$$

6. $P = ₹1500, R = 9\%, T = 5 \text{ years}$

$$SI = \frac{1500 \times 9 \times 5}{100} = ₹675$$

$$\text{Amount} = ₹1500 + ₹675 = ₹2175$$

7. $P = ₹15750, R = 10\%, T = 10 \text{ yrs}$

$$SI = \frac{15750 \times 10 \times 10}{100} = ₹15750$$

$$\text{Amount} = 15750 + 15750 = ₹31500$$

8. $P = ₹10400, R = 7\frac{1}{2}\% = \frac{15}{2}\%$

$$T = 3\frac{1}{2} \text{ year} = \frac{7}{2} \text{ yrs}$$

$$SI = \frac{10400 \times 15 \times 7}{100 \times 2 \times 2} = \frac{109200}{400}$$

$$SI = ₹2730$$

$$\text{Amt.} = 10400 + 2730 = ₹13130$$

14.

Speed, Distance and Time

Exercise 14.1

1. (a) Distance = 100 km (b) Distance = 120 km
Time = 4 hours Time = 4 hours

$$\begin{aligned} \text{Speed} &= \frac{\text{Distance}}{\text{Time}} \\ &= \frac{100}{4} \\ &= 25 \text{ km/hour} \end{aligned}$$

$$\begin{aligned} \text{Speed} &= \frac{\text{Distance}}{\text{Time}} \\ &= \frac{120}{4} \\ &= 30 \text{ km/hour} \end{aligned}$$

(c) Distance = 1725 km (d) Distance = 1300 km

$$\begin{aligned} \text{Time} &= 25 \text{ hours} \\ \text{Speed} &= \frac{\text{Distance}}{\text{Time}} \\ &= \frac{1725}{25} \\ &= 69 \text{ km/hour} \end{aligned}$$

$$\begin{aligned} \text{Time} &= 13 \text{ hours} \\ \text{Speed} &= \frac{\text{Distance}}{\text{Time}} \\ &= \frac{1300}{13} \\ &= 100 \text{ km/hr} \end{aligned}$$

2. Distance covered = 320 km

Time = 4 hours

$$\begin{aligned} \text{Speed} &= \frac{\text{Distance}}{\text{Time}} \\ &= \frac{320}{4} = 80 \text{ km/hour} \end{aligned}$$

3. Distance travelled = 440 km

Time taken = 11 hours

$$\begin{aligned} \text{Speed} &= \frac{\text{Distance}}{\text{Time}} \\ &= \frac{440}{11} = 40 \text{ km/hours} \end{aligned}$$

4. Total distance between Meerut to Delhi = 64 km

Time taken to cover the distance = 1 hours 20 min

$$\begin{aligned} &= 1 \frac{20}{60} \\ &= 1 \frac{2}{6} \\ &= 1 \frac{1}{3} \end{aligned}$$

$$\begin{aligned}
 &= \frac{4}{3} \\
 \text{Speed} &= \frac{\text{Distance}}{\text{Time}} \\
 &= \frac{64}{4/3} \\
 &= \frac{64 \times 3}{4} = 48 \text{ km/hour}
 \end{aligned}$$

5. Distance covered = 180 km

Time taken = 3 hours 30 minutes

$$\begin{aligned}
 &= 3 \frac{30}{60} \\
 &= 3 \frac{1}{2} \\
 &= \frac{7}{2}
 \end{aligned}$$

$$\begin{aligned}
 \text{Speed} &= \frac{\text{Distance}}{\text{Time}} \\
 &= \frac{180}{7/2} \\
 &= \frac{180 \times 2}{7} \\
 &= 51.42 \text{ km/hour}
 \end{aligned}$$

6. Distance covered by Saurabh = 15 km

Time taken by Saurabh = 20 minutes

$$\begin{aligned}
 &= \frac{20}{60} \\
 &= \frac{1}{3}
 \end{aligned}$$

$$\begin{aligned}
 \text{Speed} &= \frac{\text{Distance}}{\text{Time}} \\
 &= \frac{15}{1/3} = 15 \times 3 = 45 \text{ km/hour}
 \end{aligned}$$

Distance covered by Aman = 10 km

Time taken = 15 minutes

$$= \frac{15}{60} \text{ hours}$$

$$= \frac{1}{4} \text{ hours}$$

$$\text{Speed} = \frac{\text{Distance}}{\text{Time}}$$

$$= \frac{10}{1/4} = 10 \times 4 = 40 \text{ km/hours}$$

Ans. Saurabh drives faster.

7. Distance covered by Geeta = 5 km

Time taken = 20 minutes

$$= \frac{20}{60} = \frac{1}{3}$$

$$\text{Speed} = \frac{\text{Distance}}{\text{Time}}$$

$$= \frac{5}{1/3} = 5 \times 3 = 15 \text{ km/hour}$$

Distance covered by Nikita = 7 km

Time taken = 24 minutes = $\frac{24}{60} = 0.4$ hours

$$\text{Speed} = \frac{\text{Distance}}{\text{Time}}$$

$$= \frac{7}{0.4} = 17.5 \text{ km/hours}$$

Nikita drove faster

Exercise 14.2

1. (a) 20 km/hr

$$20 \text{ km} = 20 \times 1000 = 20000 \text{ m}$$

$$1 \text{ hr} = 1 \times 3600 = 3600 \text{ sec}$$

$$= \frac{20000}{3600} = \frac{200}{36} = 5 \frac{20}{36} = 5 \frac{5}{9} \text{ m/sec}$$

(b) 24 km/hr

$$24 \text{ km} = 24000 \text{ m}$$

$$1 \text{ hr} = 3600 \text{ sec}$$

$$= \frac{24000}{3600} = \frac{240}{36} = \frac{40}{6} \Rightarrow 6 \frac{4}{6} \text{ m/sec}$$

(c) 15 km/hr

$$\frac{15000}{3600} = \frac{150}{36} = \frac{25}{6} = 4 \frac{1}{6} \text{ m/sec}$$

(d) 360 km/hr

$$\frac{360 \times 1000}{3600} = \frac{360000}{3600} = 100 \text{ m/sec}$$

(e) 3.6 km/hr

$$\frac{3.6 \times 1000}{3600} = \frac{3600}{3600} = 1 \text{ m/sec}$$

(f) 21.6 km/hr

$$\frac{21.6 \times 1000}{3600} = \frac{21600}{3600} = 6 \text{ m/sec}$$

2. (a) 36 m/sec

$$\frac{36 \times \frac{1}{1000}}{1 \times \frac{1}{3600}} \Rightarrow \frac{36 \times 3600}{1000} = \frac{129600}{1000} = 129.6 \text{ km/hr}$$

(b) 120 m/sec

$$\frac{\frac{120}{1000}}{\frac{1}{3600}} \Rightarrow \frac{120 \times 3600}{1000} = \frac{432000}{1000} = 432 \text{ km/hr}$$

(c) 625 m/sec

$$\frac{\frac{625}{1000}}{\frac{1}{3600}} \Rightarrow \frac{625 \times 3600}{1000} = \frac{2250000}{1000}$$

$$\Rightarrow 2250 \text{ km/hr}$$

(d) 2.5 m/sec

$$\frac{2.5}{\frac{1000}{3600}} \Rightarrow \frac{2.5 \times 3600}{1000} \Rightarrow \frac{9000}{1000} \Rightarrow 9 \text{ km/hr}$$

(e) 90 m/sec

$$\frac{90}{\frac{1000}{3600}} \Rightarrow \frac{90 \times 3600}{1000} = \frac{324000}{1000} \Rightarrow 324 \text{ km/hr}$$

(f) 12 m/sec

$$\frac{12}{\frac{1000}{3600}} \Rightarrow \frac{12 \times 3600}{1000} \Rightarrow \frac{43200}{1000} = 43.2 \text{ km/hr}$$

3. 3600 m/min

$$3600 \text{ km} = \frac{3600}{1000} \text{ m}$$

$$1 \text{ min} = \frac{1}{60} \text{ hr}$$

$$\Rightarrow \frac{3600 \times 60}{1000} = \frac{216000}{1000} = 216 \text{ km/hr}$$

4. Distance = 1080 km

Time = 1 hr 40 min

$$\text{Speed} = \frac{\text{Distance}}{\text{Time}} = \frac{1080}{100} \text{ min}$$

$$\Rightarrow 10.8 \times 60 = 648 \text{ km/hr}$$

5. Distance = 189 km = 189000 m

Time = 3 hrs = 3 × 3600 = 10800 sec

$$\frac{189000}{10800} = 17.5 \text{ m/s}$$

Exercise 14.3

1. Distance = speed × time

$$\begin{aligned} \text{Time} &= 10 \text{ min} = 10 \times 60 = 600 \text{ sec} \\ &= 100 \times 600 = 60000 \text{ m} \\ \Rightarrow & \frac{60000}{1000} = 60 \text{ km} \end{aligned}$$

2. $\text{Time} = \frac{\text{Distance}}{\text{Speed}}$

$$\begin{aligned} \text{Distance} &= 1 \text{ km } 600 \text{ m} = 1600 \text{ m.} \\ &= \frac{1600}{100} = 16 \text{ minutes} \end{aligned}$$

3. $\text{Speed} = 1100 \text{ km/hr}$

$$\begin{aligned} \text{Time} &= 1 \text{ hr } 10 \text{ min} \\ &= 60 + 10 = 70 \text{ min} \end{aligned}$$

$$D = 1100 \times \frac{70}{60} = 1283.33 \text{ km/hr}$$

4. $\text{Time} = \frac{\text{Distance}}{\text{Speed}}$

$$D = 240 \text{ km} \Rightarrow \frac{240}{30} = 8 \text{ hours}$$

$$S = 30 \text{ km/hr}$$

5. $\text{Speed} = 100 \text{ km/hr}$

$$\text{Time} = 3 \text{ hr } 30 \text{ min} = 210 \text{ min}$$

$$\text{Distance} = 100 \times \frac{210}{60} = 350 \text{ km}$$

6. $\text{Speed of bike in km/hr} = 60 \text{ km/hr}$

$$\text{Dog speed} = 100 \text{ m/min}$$

$$\begin{aligned} \text{In km/hr} &\Rightarrow \frac{1000}{1} \Rightarrow \frac{100 \times 60}{1000} \\ &= \frac{6000}{1000} = 6 \text{ km/hr} \end{aligned}$$

$$\text{Speed of dog in km/hr} = 6 \text{ km/hr}$$

Speed of bike is more.

7. Distance = 15 km

Speed 25 km/hr

1 hr = 60 min = 25 km

$$\frac{60}{25} \times 15 = 36 \text{ minutes}$$

8. Speed of man = $5\frac{1}{4}$ km/hr = $\frac{21}{4}$ km/hr

Time taken to reach office = 40 min

$$\text{Distance} = \frac{21}{4} \times \frac{40}{60} = \frac{21 \times 10}{60} = \frac{210}{60} = 3.5 \text{ km}$$

15.

Lines, Angles and Circles

Exercise 15.1

1. Do yourself
2. (a) obtuse angle (b) acute angle (c) right angle (d) acute angle (e) obtuse angle (f) right angle
3. (a) Complement of $42^\circ = (90^\circ - 42^\circ) = 48^\circ$
(b) Complement of $68^\circ = (90^\circ - 68^\circ) = 22^\circ$
(c) Complement of $25^\circ = (90^\circ - 25^\circ) = 65^\circ$
(d) Complement of $19^\circ = (90^\circ - 19^\circ) = 71^\circ$
(e) Complement of $79^\circ = (90^\circ - 79^\circ) = 11^\circ$
4. (a) Supplement of $180^\circ = (180^\circ - 180^\circ) = 0$
(b) Supplement of $85^\circ = (180^\circ - 85^\circ) = 95^\circ$
(c) Supplement of $119^\circ = (180^\circ - 119^\circ) = 61^\circ$
(d) Supplement of $136^\circ = (180^\circ - 136^\circ) = 44^\circ$
(e) Supplement of $40^\circ = (180^\circ - 40^\circ) = 140^\circ$
5. (a) O (b) Y (c) Q
6. (a) XO, OY (b) AO, BO (c) QR, PQ

Exercise 15.2

1. Do it yourself
2. Do it yourself
3. Do it yourself

Exercise 15.3

1. R = OT, OP, OS, OR ; D = PS
2. CD, AD
3. (a) equal (b) diameter (c) 2 (d) r (e) r
(f) longest (g) 16 cm
4. Do it yourself.

5. (a) Diameter of circle = 6 cm
Radius of circle = $\frac{\text{Diameter}}{2}$
 $= \frac{6}{2} = 3 \text{ cm}$

(b) Diameter of circle = 9.2 cm
Radius of circle = $\frac{\text{Diameter}}{2}$
 $= \frac{9.2}{2} = 4.6 \text{ cm}$

(c) Diameter of circle = 7.8 cm
Radius of circle = $\frac{\text{Diameter}}{2}$
 $= \frac{7.8}{2} \text{ cm} = 3.9 \text{ cm}$

(d) Diameter of circle = 3.6 cm
Radius of circle = $\frac{3.6}{2} = 1.8 \text{ cm}$

6. (a) Radius of circle = 4 cm
Diameter of circle = $2 \times r$
 $= 2 \times 4 = 8 \text{ cm}$
- (b) Radius of circle = 4.8 cm

$$\begin{aligned}\text{Diameter of circle} &= 2 \times r \\ &= 2 \times 4.8 = 9.6 \text{ cm}\end{aligned}$$

(c) Radius of circle = 6.3 cm

$$\begin{aligned}\text{Diameter of circle} &= 2 \times r \\ &= 2 \times 6.3 = 12.6 \text{ cm}\end{aligned}$$

(d) Radius of circle = 5.4 cm

$$\begin{aligned}\text{Diameter of circle} &= 2 \times r \\ &= 2 \times 5.4 = 10.8 \text{ cm}\end{aligned}$$

7. (a) Radius of circle = 7 cm

$$\begin{aligned}\text{Circumference of circle} &= 2\pi r \\ &= 2 \times \frac{22}{7} \times 7 = 44 \text{ cm}\end{aligned}$$

(b) Radius of circle = 3.5 cm

$$\begin{aligned}\text{Circumference of circle} &= 2\pi r \\ &= 2 \times \frac{22}{7} \times 3.5 = 22 \text{ cm}\end{aligned}$$

(c) Radius of circle = 5.6 cm

$$\begin{aligned}\text{Circumference of circle} &= 2\pi r \\ &= 2 \times \frac{22}{7} \times 5.6 = 35.2 \text{ cm}\end{aligned}$$

(d) Radius of circle = 2.8 cm

$$\begin{aligned}\text{Circumference of circle} &= 2\pi r \\ &= 2 \times \frac{22}{7} \times 2.8 = 17.6 \text{ cm}\end{aligned}$$

8. (a) Circumference of circle = 44 cm

$$\begin{aligned}\text{Radius of circle} &= \frac{\text{Circumference}}{2\pi} \\ &= \frac{44}{2 \times 22/7} = 7 \text{ cm}\end{aligned}$$

$$\begin{aligned}\text{Diameter} &= 2 \times r \\ &= 2 \times 7 = 14 \text{ cm}\end{aligned}$$

(b) Circumference of circle = 35.2 cm

$$\begin{aligned}\text{Radius of circle} &= \frac{\text{Circumference}}{2\pi} \\ &= \frac{35.2}{2 \times 22/7} = 5.6 \text{ cm}\end{aligned}$$

$$\begin{aligned}\text{Diameter} &= 2 \times r \\ &= 2 \times 5.6 = 11.2 \text{ cm}\end{aligned}$$

(c) Circumference of circle = 66 cm

$$\begin{aligned}\text{Radius of circle} &= \frac{\text{Circumference}}{2\pi} \\ &= \frac{66}{2 \times 22/7} = 10.5 \text{ cm}\end{aligned}$$

$$\begin{aligned}\text{Diameter} &= 2 \times r \\ &= 2 \times 10.5 = 21 \text{ cm}\end{aligned}$$

(d) Circumference of circle = 30.8 cm

$$\begin{aligned}\text{Radius of circle} &= \frac{\text{Circumference}}{2\pi} \\ &= \frac{30.8}{2 \times 22/7} = 4.9 \text{ cm}\end{aligned}$$

$$\begin{aligned}\text{Diameter} &= 2 \times r \\ &= 2 \times 4.9 = 9.8 \text{ cm}\end{aligned}$$

9. (a) O (b) ST, PR (c) PSR, PTQR, (d) OP (e) PR (f) PR

10. Diameter = 2 × radius

16. Triangles and Quadrilateral

Exercise 16.1

1. Do yourself
2. Sum of angles of triangle = 180°
 - (a) $\angle A + \angle B + \angle C = 40^\circ + 50^\circ + 100^\circ$
 $= 190^\circ \neq 180^\circ$
 - (b) $\angle A + \angle B + \angle C = 50^\circ + 60^\circ + 70^\circ$

$$= 180^\circ = 180^\circ$$

(c) $\angle A + \angle B + \angle C = 45^\circ + 45^\circ + 90^\circ$
 $= 180^\circ = 180^\circ$

(d) $\angle A + \angle B + \angle C = 60^\circ + 70^\circ + 80^\circ$
 $= 210^\circ \neq 180^\circ$

Hence a, d , cannot be measure of there angles of a triangle.

3. (a) Sum of angles of triangle = 180°
 $30^\circ + 60^\circ + \angle P = 180^\circ$
 $\angle P = 180^\circ - 90^\circ = 90^\circ$
- (b) Sum of angles of triangle = 180°
 $90^\circ + 45^\circ + \angle A = 180^\circ$
 $\angle A = 180^\circ - 135^\circ = 45^\circ$
- (c) Sum of angles of triangle = 180°
 $60^\circ + 60^\circ + \angle Z = 180^\circ$
 $\angle Z = 180^\circ - 120^\circ = 60^\circ$
- (d) Sum of angles of triangle = 180°
 $60^\circ + 40^\circ + \angle L = 180^\circ$
 $\angle L = 180^\circ - 100^\circ = 80^\circ$
- (e) Sum of angles of triangle = 180°
 $40^\circ + 70^\circ + \angle E = 180^\circ$
 $\angle E = 180^\circ - 110^\circ = 70^\circ$
- (f) Sum of angles of triangle = 180°
 $80^\circ + 50^\circ + \angle M = 180^\circ$
 $\angle M = 180^\circ - 130^\circ = 50^\circ$

Exercise 16.2

1. (a) equilateral (b) scalene (c) scalene (d) isosceles
 (e) scalene (f) equilateral
2. (a) right (b) acute (c) right (d) obtuse (e) acute
 (f) obtuse

Exercise 16.3

- (a) 90° (b) square (c) equal (d) right (e) trapezium
- (a) True (b) False (c) True (d) True (e) False
- (a) 90° (b) 90° (c) CD (d) 360°
- (a) parallelogram (b) trapezium (c) square
- (a) AB, BC, CD, DA (b) $\angle A, \angle B, \angle C, \angle D$
(c) AC, BD

17.

Area and Volume

Exercise 17.1

- | | |
|--|--|
| (a) Length = 14 cm Breadth = 17 cm Area = $l \times b$ = 14×17 = 238 cm^2 | (b) Length = 18 cm Breadth = 9 cm Area = $l \times b$ = 18×9 = 162 cm^2 |
|--|--|
- | | |
|---|--|
| (c) Length = 15 m Breadth = 10 m Area = $l \times b$ = 15×10 = 150 m^2 | (d) Length = 3.7 cm Breadth = 4.8 cm Area = $l \times b$ = 3.7×4.8 = 17.76 cm^2 |
|---|--|
- | | |
|--|--|
| (e) Length = 3.5 cm Breadth = 56 cm = $\frac{56}{100} = 0.56 \text{ cm}$ Area = $l \times b$ = 3.5×0.56 = 1.96 m^2 | (f) Length = 3 m 10 cm = 300 cm 10 cm = 310 cm Breadth = 70 cm Area = $l \times b$ = 310×70 = $21,700 \text{ cm}^2$ |
|--|--|

2. (a) Side = 15 cm
 Area = side \times side
 $= 15 \times 15$
 $= 225 \text{ cm}^2$

(b) Side = 28 cm
 Area = side \times side
 $= 28 \times 28$
 $= 784 \text{ cm}^2$

(c) Side = 14.4 cm
 Area = side \times side
 $= 14.4 \times 14.4$
 $= 207.36 \text{ cm}^2$

(d) Side = 6 m 10 cm
 600 m 10 cm
 $= 610 \text{ cm}$
 Area = side \times side
 $= 610 \times 610$
 $= 3,72,100 \text{ cm}^2$

3. (a) Area = 136 sq cm
 Breadth = 17 cm
 Area = side \times side

$$l = \frac{\text{Area}}{b}$$

$$= \frac{136}{17} = 8 \text{ cm}$$

(b) Area = 102 sq m
 Breadth = 12 m

$$l = \frac{\text{Area}}{b}$$

$$= \frac{102}{12} = 8.5 \text{ m}$$

(c) Area = 125 sq m
 Breadth = 12.5 m

$$l = \frac{\text{Area}}{b}$$

$$= \frac{125}{12.5} = 10 \text{ m}$$

4. (a) Area = 168 sq cm
 Length = 14 cm

$$\text{Breadth} = \frac{\text{Area}}{\text{Length}}$$

$$= \frac{168}{14} = 12 \text{ cm}$$

(b) Area = 58 sq m
 Length = 29 m

$$\text{Breadth} = \frac{\text{Area}}{\text{Length}}$$

$$= \frac{58}{29} = 2 \text{ m}$$

(c) Area = 391 sq cm
 Length = 17 cm

$$\begin{aligned}\text{Breadth} &= \frac{\text{Area}}{\text{Length}} \\ &= \frac{391}{17} = 23 \text{ cm}\end{aligned}$$

5. Length of the room = 10 m

Breadth of the room = 15 m

$$\begin{aligned}\text{Area of room} &= l \times b \\ &= 10 \times 15 = 150 \text{ m}^2\end{aligned}$$

Hence, the area of the room is 150 m^2

6. Length of block = 25 cm

Breadth of block = 12 cm

$$\begin{aligned}\text{Area of block} &= 25 \times 12 \\ &= 300 \text{ cm}^2\end{aligned}$$

Length of path = 12.5 m = 1250 cm

Breadth of path = 4.8 m = 480 cm

$$\begin{aligned}\text{Area of path} &= 1250 \text{ cm} \times 480 \text{ cm} \\ &= 600000 \text{ cm}^2\end{aligned}$$

$$\begin{aligned}\text{No. of blocks} &= \frac{\text{Area of path}}{\text{Area of block}} \\ &= \frac{600000}{300} = 2000\end{aligned}$$

Hence, 2000 blocks are required to lay a path.

7. Area of square = 169 sq cm

$$\begin{aligned}\text{Side of the square} &= \sqrt{169} \\ &= 13 \text{ cm}\end{aligned}$$

8. Length of hall = 11 m

Breadth of hall = 7 m

$$\begin{aligned}\text{Area of hall} &= l \times b \\ &= 11 \times 7 = 77 \text{ m}^2\end{aligned}$$

Cost of cementing for sq m = ₹ 42

$$\text{Cost of cementing } 77 \text{ m}^2 = 42 \times 77$$

$$= ₹ 3234$$

Hence ₹ 3234 is required to cement the hall.

9. Length of carpet = 14 m

Breadth of carpet = 11.5 m

$$\begin{aligned} \text{Area of carpet} &= 14 \times 11.5 \text{ m} \\ &= 161 \text{ m}^2 \end{aligned}$$

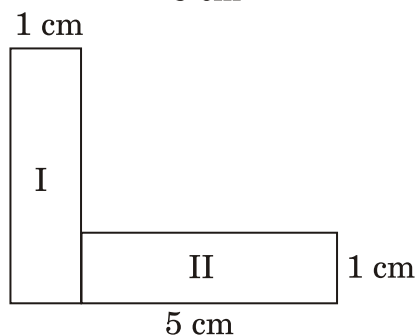
Length of another carpet = 16 m

Breadth of carpet = 10.7 m

$$\text{Area of carpet} = 16 \times 10.7 = 171.2 \text{ m}^2$$

Ind carpet is bigger

10. (a) Area of I figure = $1 \text{ cm} \times 5 \text{ cm}$
 $= 5 \text{ cm}^2$



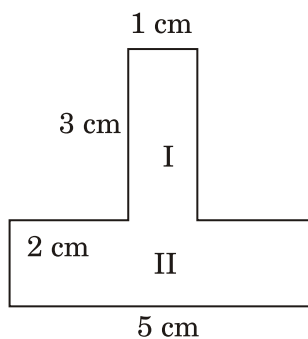
$$\begin{aligned} \text{Area of II figure} &= (5 \text{ cm} - 1 \text{ cm}) \times 1 \text{ cm} \\ &= 4 \text{ cm}^2 \end{aligned}$$

$$\text{Total Area} = 5 \text{ cm}^2 + 4 \text{ cm}^2 = 9 \text{ cm}^2$$

(b) Area of I = $3 \text{ cm} \times 1 \text{ cm}$
 $= 3 \text{ cm}^2$

$$\begin{aligned} \text{Area of II} &= 2 \text{ cm} \times 5 \text{ cm} \\ &= 10 \text{ cm}^2 \end{aligned}$$

$$\begin{aligned} \text{Total area} &= 10 \text{ cm}^2 + 3 \text{ cm}^2 \\ &= 13 \text{ cm}^2 \end{aligned}$$



Exercise 17.2

1. (a) $l = 15 \text{ cm}$ $b = 12 \text{ cm}$ $h = 8 \text{ cm}$

$$\begin{aligned}\text{Volume} &= l \times b \times h \\ &= (15 \times 12 \times 8) \text{ cm}^3 \\ &= 1440 \text{ cm}^3\end{aligned}$$

(b) $l = 17 \text{ cm}$, $b = 14 \text{ cm}$ $h = 12.5 \text{ cm}$

$$\begin{aligned}\text{Volume} &= l \times b \times h \\ &= (17 \times 14 \times 12.5) \text{ m}^3 \\ &= 2975 \text{ m}^3\end{aligned}$$

(c) $l = 13.5 \text{ cm}$, $b = 12.8 \text{ cm}$, $h = 10.4 \text{ cm}$

$$\begin{aligned}\text{Volume} &= l \times b \times h \\ &= (13.5 \times 12.8 \times 10.4) \text{ cm}^3 \\ &= 1797.12 \text{ cm}^3\end{aligned}$$

2. (a) Volume of cube $= l \times l \times l$

$$\begin{aligned}&= (14 \times 14 \times 14) \text{ cm}^3 \\ &= 2744 \text{ cm}^3\end{aligned}$$

(b) Volume of cube $= l \times l \times l$

$$\begin{aligned}&= (8.5 \times 8.5 \times 8.5) \text{ cm}^3 \\ &= 614.125 \text{ cm}^3\end{aligned}$$

(c) Volume of cube $= l \times l \times l$

$$\begin{aligned}&= (11 \times 11 \times 11) \text{ m}^3 \\ &= 1331 \text{ m}^3\end{aligned}$$

(d) Volume of cube $= l \times l \times l$

$$\begin{aligned}&= (13.7 \times 13.7 \times 13.7) \text{ m}^3 \\ &= 2571.353 \text{ m}^3\end{aligned}$$

3. Length of pit $= 4.6 \text{ m}$

Breadth of pit $= 3.5 \text{ m}$

Height of pit $= 2.4 \text{ m}$

$$\begin{aligned}\text{Volume of earth dug out} &= l \times b \times h \\ &= 4.6 \text{ m} \times 3.5 \text{ m} \times 2.4 \text{ m} \\ &= 38.64 \text{ m}^3\end{aligned}$$

Hence, 38.64 m^3 of earth is dug out from a pit.

4. Length of wooden block = 18 cm

Breadth of wooden block = 18 cm

Height of wooden block = 18 cm

$$\begin{aligned}\text{Volume of wooden block} &= l \times l \times l \\ &= (18 \times 18 \times 18) \text{ cm}^3 \\ &= 5832 \text{ cm}^3\end{aligned}$$

Hence, volume of wooden block is 5832 cm^3

5. Length of cake = 10 cm

Breadth of cake = 15 cm

Height of cake = 3.5 cm

$$\begin{aligned}\text{Volume of cake} &= l \times b \times h \\ &= (10 \times 15 \times 3.5) \text{ cm}^3 \\ &= 525 \text{ cm}^3\end{aligned}$$

Length of carton = 50 cm

Breadth of carton = 45 cm

Height of carton = 35 cm

$$\begin{aligned}\text{Volume of carton} &= l \times b \times h \\ &= (50 \times 45 \times 35) \text{ cm}^3 \\ &= 78750 \text{ cm}^3\end{aligned}$$

$$\text{No. of cakes} = \frac{78750 \text{ cm}^3}{525 \text{ cm}^3} = 150$$

Hence, 150 cakes can be packed.

6. Volume of brick = $l \times b \times h$

$$= 25 \text{ cm} \times 12 \text{ cm} \times 5 \text{ cm}$$

$$= 1500 \text{ cm}^3$$

Length of wall = 4 m = 400 cm

Breadth of wall = 6 m = 600 cm

Height of wall = 30 cm

Volume of wall = $l \times b \times h$

$$\text{No. of bricks} = \frac{72,00,000}{1500} = 48000$$

Hence, 48000 bricks are required to build a wall.

$$\begin{aligned} 7. \text{ Volume of earth dug out} &= l \times l \times l \\ &= 5.6 \text{ m} \times 5.6 \text{ m} \times 5.6 \text{ m} \\ &= 175.616 \text{ m}^3 \end{aligned}$$

8. Length of the rectangular box = 20 cm

Breadth of rectangular box = 18 cm

Volume of rectangular box = 7200 cm^3

$$\begin{aligned} \text{Height of rectangular box} &= \frac{\text{Volume}}{l \times b} \\ &= \frac{7200}{20 \times 18} = 20 \text{ cm} \end{aligned}$$

Hence, height of box is 20 cm.

18.

Temperature

Exercise 18.1

1. (a) Therometer (b) clinical (c) 100° (c) 32°F (e) 37°C
2. Temp in $^\circ\text{F}$ -32 $\times 5$ $\div 9$ Temp in $^\circ\text{C}$
- | | | | | |
|---------|------------|----------------|----------------|---------------------|
| (a) 41 | $41 - 32$ | 9×5 | $45 \div 9$ | |
| | $= 9$ | $= 45$ | $= 5$ | $= 5^\circ\text{C}$ |
| (b) 77 | $77 - 32$ | 45×5 | $225 \div 9$ | $= 25$ |
| | $= 45$ | $= 225$ | $= 25$ | |
| (c) 180 | $180 - 32$ | 148×5 | $740 \div 9$ | $= 82.22$ |
| | $= 148$ | $= 740$ | $= 82.22$ | |
| (d) 194 | $194 - 32$ | 162×5 | $= 810 \div 9$ | $= 90$ |

$$\begin{array}{l}
 = 162 \qquad = 810 \qquad = 90 \\
 \text{(e) } 203 \quad 203 - 32 \quad 171 \times 5 \quad 855 \div 9 \quad = 95 \\
 \qquad \qquad = 171 \qquad \qquad = 855 \qquad = 95 \\
 \text{(f) } 245.8 \quad 245.8 - 32 = 213.8 \times 5 \quad 1069 \div 9 = 118.77 \\
 \qquad \qquad = 213.8 \qquad \qquad = 1069 \qquad = 118.77 \\
 \text{(g) } 176 \quad 176 - 32 \quad 144 \times 5 \quad 720 \div 9 \quad = 80 \\
 \qquad \qquad = 144 \qquad \qquad = 720 \qquad = 80
 \end{array}$$

3. Temp in 0°C $\times 9$ $\div 5$ $+ 32$ Temp in $^{\circ}\text{F}$

$$\begin{array}{l}
 \text{(a) } 25 \quad 25 \times 9 \quad 225 \div 5 \quad 45 + 32 \quad = 77 \\
 \qquad \qquad = 225 \quad = 45 \quad = 77 \\
 \text{(b) } 50 \quad 50 \times 9 \quad 450 \div 5 \quad 90 + 32 \quad = 122 \\
 \qquad \qquad = 450 \quad = 90 \quad = 122 \\
 \text{(c) } 85 \quad 85 \times 9 \quad 765 \div 5 \quad 153 + 32 \quad = 185 \\
 \qquad \qquad = 765 \quad = 153 \quad = 185 \\
 \text{(d) } 110 \quad 11 \times 9 \quad 990 \div 5 \quad 198 + 32 \quad = 230 \\
 \qquad \qquad = 990 \quad = 198 \quad = 230 \\
 \text{(e) } 70 \quad 70 \times 9 \quad 630 \div 5 \quad 136 + 32 \quad = 158 \\
 \qquad \qquad = 630 \quad = 136 \quad = 158 \\
 \text{(f) } 80.5 \quad 80.5 \times 5 \quad 724.5 \div 5 \quad 144.9 + 32 \quad = 176.9 \\
 \qquad \qquad = 724.5 \quad = 144.9 \quad = 176.9 \\
 \text{(g) } 133 \quad 133 \times 9 \quad 1197 \div 5 \quad 239.4 + 32 \quad = 271.4 \\
 \qquad \qquad = 1197 \quad 239.4 \quad = 271.4
 \end{array}$$

4. Maximum temperature of a day = 143°F

Minimum temperature of a day = 86°F

$$\begin{array}{l}
 \text{Difference} = 143 - 86 = 57^{\circ}\text{F} \\
 = 57 - 32 \qquad 25 \times 5 \qquad 125 \div 9 \\
 = 25 \qquad \qquad = 125 \qquad = 13.88 \\
 = 13.88^{\circ}\text{C}
 \end{array}$$

5. Temperature of object $X = 36^{\circ}\text{C}$

Temperature of object $Y = 36^{\circ}\text{F}$

$$\begin{array}{l}
 \text{Temperature of object } X = 36 \times 9 \div 5 + 32 \\
 \qquad \qquad \qquad = 324 \div 5 + 32
 \end{array}$$

$$= 64.8 + 32$$

$$= 96.8^{\circ}\text{F}$$

$$\text{Object X is hotter by} = 96.8 - 36$$

$$= 60.8^{\circ}\text{F}$$

6. Body temperature of patient = 101°F

$$= 101 - 32 \times 5 \div 9$$

$$= 69 \times 5 \div 9$$

$$= 345 \div 9$$

$$= 38.33^{\circ}\text{C}$$

$$\text{in temperature} = 38.33 - 37^{\circ}\text{C}$$

$$= 1.33^{\circ}\text{C}$$

19.

Bills

Exercise 19.1

1.

Bill

Roomy General Store

Bill No. 41.....

Dated : 18th July, 2015

Name and Address : Rani

| S. No. | Name of items | Quantity | Rate or cost per unit | Amount |
|--------|----------------|----------|-----------------------|--------|
| 1. | Handkerchieves | 4 | ₹ 8.75 | 35.00 |
| 2. | socks | 2 | ₹ 20.00 | 40.00 |
| 3. | Ribbons | 3 m | ₹ 5.50 | 16.50 |
| 4 | Buttons | 2 dozen | ₹ 1.25 | 2.50 |
| 5. | Wool | 500g | ₹ 300 | 150.00 |

No. of items =5 Total Amount ₹ **244.00**

Rupees two hundred forty four only sign of owner
(for **Roomy General Store**)

2.

Bill

Dashmesh Nagar, Meerut

Bill No. **42**.....

Dated : 22nd June, 2016

Name and Address : Mrs Kamlesh Rastogi, Jwala
Nagar

| S. No. | Name of items | Quantity | Rate or cost per unit | Amount |
|--------|-----------------|----------|-----------------------|----------|
| 1. | Barfi | 2 kg | ₹ 130.00 | ₹ 260.00 |
| 2. | Namkeen Mixture | 1 kg | ₹ 90.00 | ₹ 90.00 |
| 3. | Rasgullas | 25 | ₹ 5.00 | ₹ 125.00 |
| 4 | Samosas | 15 | ₹ 4.00 | ₹ 60.00 |

No. of items =5 Total Amount ₹ **535.00**

Five hundred thirty five only sign of owner
(for **Standard Sweets**)

3. Do yourself.

20.

Pictogram and Bar Diagrams

Exercise 20.1

1. * = 2 students

Now, me may draw the pictograph as under

| | |
|-----------|-----------|
| Monday | * * * * * |
| Tuesday | * * * * * |
| Wednesday | * * * * * |
| Thursday | * * * * * |
| Friday | * * * * * |
| Saturday | * * * * * |

2. $\triangle = 500$ men $\bigcirc = 500$ women
 $\square = 500$ children

Now, we may draw the pictograph as under

| | |
|----------|---|
| Men | $\triangle \triangle \triangle \triangle \triangle \triangle \triangle \triangle \triangle \triangle \triangle \triangle \triangle \triangle$ |
| Women | $\bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc$ |
| Children | $\square \square \square$ |

3. $\bigcirc = 50$ persons

Now, we may draw the pictograph as under

| | |
|----------|--|
| Hindi | $\bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc$ |
| English | $\bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc$ |
| Kanad | $\bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc$ |
| Punjabi | $\bigcirc \bigcirc \bigcirc \bigcirc \bigcirc$ |
| Gujarati | $\bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc$ |

Exercise 20.2

1. Do yourself
2. Do yourself
3. Do yourself
4. (a) The rain fall was maximum in June.
(b) There was 24 cm of rainfall in June.
(c) August was the driest.
(d) There was 18 cm of rainfall in September.
5. (a) It conveys the numbers of members of families.
(b) 25 families have 2 members.
(c) 60 families have 5 members.