

# Answers

## Ch-1 Knowing the Numbers

### Exercise 1.1

- (a) -28, -12, -7, -1, 1, 3, 7 (b) -5, -4, 1, 3, 6, 8, 11
- (a) 15, 9, 6, 3, -7, -10, -12, -14 (b) 14, 13, 8, 6, 2, 0, -8, -10, -16
- (a) 41 (b) -3 (c) 83 (d) 27
- (a) 16 (b) 32 (c) -919 (d) -1728
- (a) 16 (b) -137 (c) 7 (d) 484
- (a) 70c (b) 00F (c) -14°C (d) 44°F
- (a) 2, 5, 8, 11 (b) 69, 75, 81, 87
- (a) The frog jumped 4 steps backward. (b) Today's temperature is 40c above normal.  
(c) Rahul reached at the platform 30 minutes after the arrival of train. (d) Start counting from 17 in descending order.

### Exercise 1.2

- (a) 0 (b) 144 (c) 0 (d) 132 (e) -77 (f) -120
- (a) -80 (b) -54 (c) 0 (d) 90 (e) 1800 (f) 1000 (g) 0 (h) 600
- (a) -96 (b) 16 (c) -10 (d) 75 (e) 4 (f) -3 (g) -6 (h) -7 (i) 3 (j) 100
- (a) 20 (b) -12 (c) -2 (d) -12 (e) -21 (f) 37 (g) 9 (h) 1 (i) -9 (j) 10
- (a) 12 (b) 6 (c) 2 (d) 100
- 3
- 12
- 84

### Exercise 1.3

- (a) -20 (b) -25 (c) 0 (d) 26 (e) 16 (f) 0 (g) -5 (h) -5, -10 (i) -8, -4 (j) -5
- (a) T (b) F (c) F (d) F (e) T (f) F
- (a) 2540 (b) 735 (c) -25
- (a) -8550 (b) 224 (c) 252 (d) -9100
- (a) 1836 (b) -5015 (c) 1246 (d) -3589
- 117
- 9
- 164M

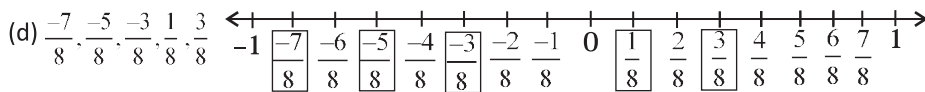
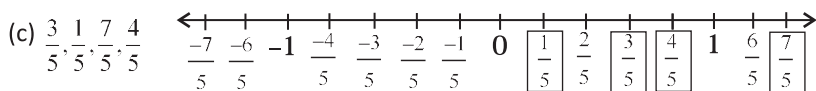
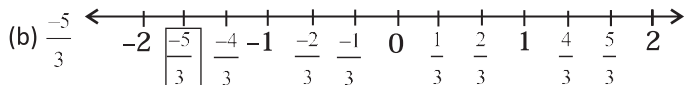
### Revision Exercise

- (a) (iii) (b) (ii) (c) (iii) (d) (i) (e) (ii) (f) (ii) (g) (iv)
- (a) 143 (b) -64 (c) 90 (d) -1000
- (a) 4 (b) -21 (c) 0 (d) -21 (e) 36 (f) -8
- (a) 16 (b) -14 (c) 14 (d) 4
- (a) -493 (b) -663 (c) -1034 (d) -1200 (e) 3400 (f) 7200
- 12 moves
- 5400

## Ch-2 Rational Numbers

### Exercise 2.1

- $\frac{6}{0}$
- 4, -3, 2, -7
- (a), (b), (e)
- Do it yourself
- (a)  $\frac{-3}{4}$



- (a)  $\frac{17}{56}$  (b)  $\frac{1}{9}$  (c)  $\frac{-1}{13}$  (d)  $\frac{10}{51}$
- (a)  $\frac{-6}{14}, \frac{-9}{21}, \frac{-12}{28}, \frac{-15}{35}$  (b)  $\frac{4}{6}, \frac{6}{9}, \frac{8}{12}, \frac{10}{15}$  (c)  $\frac{-22}{14}, \frac{-33}{21}, \frac{-44}{28}, \frac{-55}{35}$

- (a)  $\frac{12}{22}, \frac{18}{33}, \frac{24}{44}, \frac{30}{55}$
- (a)  $x = \frac{-45}{4}$  (b)  $x = -24$  (c)  $x = -21$  (d)  $x = 20$  (e)  $x = \frac{216}{5}$

- (a)  $\frac{-3}{21}, \frac{-5}{23}$  (b)  $\frac{+13}{35}, \frac{15}{42}$  (c)  $\frac{5}{10}, \frac{6}{12}$  (d)  $\frac{-7}{7}, \frac{-8}{7}$
- (a)  $\frac{1}{6}, \frac{1}{5}, \frac{1}{2}, \frac{2}{3}, \frac{3}{4}$  (b)  $\frac{-4}{7}, \frac{-3}{7}, \frac{-2}{7}, \frac{6}{7}, \frac{4}{7}$

- (a)  $\frac{7}{3}, \frac{4}{3}, \frac{2}{3}, \frac{1}{3}, \frac{-1}{3}, \frac{-2}{3}, \frac{-7}{3}$  (b)  $\frac{7}{3}, \frac{6}{3}, \frac{2}{3}, \frac{1}{3}, \frac{-13}{3}, \frac{-14}{3}$  (c)  $\frac{4}{3}, \frac{2}{5}, \frac{2}{6}, \frac{-1}{2}, \frac{-3}{4}$  (d)  $\frac{7}{10}, \frac{2}{5}, \frac{-2}{5}, \frac{-6}{5}, \frac{-7}{5}$

- (a)  $\frac{-4}{9}$  (b)  $\frac{14}{27}$  (c)  $\frac{-8}{15}$  (d)  $\frac{-3}{4}$

### Exercise 2.2

- (a)  $\frac{17}{5}$  (b)  $\frac{-53}{42}$  (c)  $\frac{-3}{7}$  (d)  $\frac{-7}{11}$  (e)  $\frac{29}{42}$  (f)  $\frac{-919}{280}$





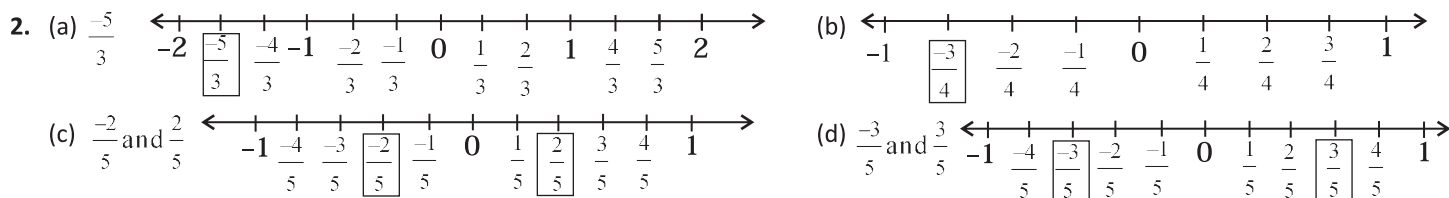
2. (a)  $\frac{11}{12}$  (b)  $\frac{-12}{7}$  (c)  $\frac{44}{75}$  (d)  $\frac{-5}{12}$  (e)  $\frac{-1}{42}$  (f)  $\frac{29}{15}$   
 3. (a)  $\frac{-119}{8}$  (b)  $\frac{13}{60}$  (c)  $\frac{-48}{35}$  (d)  $\frac{24}{35}$  (e)  $\frac{-1}{2}$  (f)  $\frac{-7}{24}$   
 4. (a)  $\frac{-8}{25}$  (b)  $\frac{35}{48}$  (c)  $\frac{-35}{64}$  (d)  $\frac{1}{2}$  (e)  $\frac{-1}{5}$  (f)  $\frac{9}{10}$   
 5. (a)  $\frac{6}{7}$  (b)  $\frac{-73}{168}$  (c)  $\frac{1}{20}$  (d)  $\frac{35}{64}$  (e)  $\frac{-31}{30}$  6.  $\frac{-23}{21}$  7.  $\frac{-11}{28}$  8.  $\frac{-2}{5}$

### Exercise 2.3

1. (a) 2.6 (b) -0.28 (c) 0.024 (d) -0.175 2. (a) non-terminating (b) terminating  
 (c) non-terminating (d) terminating (e) terminating (f) non-terminating (g) terminating (h) terminating  
 3. (a) 0.13 (b) 0.428571 (c) 0.875 (d) 0.68 (e) 0.5 (f) 3.25 (g) 15.625 (h) 0.48  
 4. (a)  $\frac{5}{4}$  (b)  $\frac{281}{40}$  (c)  $\frac{34}{9}$  (d)  $\frac{2322}{90}$  (e)  $\frac{7}{30}$  (f)  $\frac{3353}{999}$  (g)  $\frac{71}{90}$  (h)  $\frac{307}{300}$   
 5. (a)  $5\frac{7}{9}$  (b)  $9\frac{112}{99}$  (c)  $\frac{89}{198}$  (d)  $10\frac{943}{990}$  6.  $4\frac{1}{10}$  7.  $x=289, y=999$   
 8. (a) ✓ (b) ✓ (c) ✗ (d) ✓ (e) ✗ (f) ✓

### Revision Exercise

1. (a) (i) (b) (ii) (c) (i) (d) (iv) (e) (ii) (f) (iii) (g) (i) (h) (iv)



3. (a)  $\frac{-13}{45}$  (b)  $\frac{23}{49}$  (c)  $\frac{-1}{8}$  (d)  $\frac{11}{650}$  4. (a)  $\frac{15}{14}$  (b)  $\frac{11}{36}$  (c)  $\frac{19}{15}$  (d)  $2\frac{1}{5}$   
 5. (a)  $\frac{3}{4}$  (b)  $\frac{-5}{3}$  (c)  $\frac{5}{11}$  (d)  $\frac{3}{4}$  6. (a)  $\frac{-7}{8}, \frac{-5}{6}, \frac{5}{8}, \frac{2}{3}, \frac{3}{4}$  (b)  $\frac{-3}{7}, \frac{-5}{14}, \frac{-6}{35}, \frac{3}{10}$   
 (c)  $\frac{-5}{6}, \frac{-2}{3}, \frac{-1}{3}, \frac{1}{3}, \frac{2}{3}, \frac{5}{6}$  (d)  $-2, \frac{-3}{5}, \frac{-1}{2}, 0, \frac{1}{2}, \frac{3}{5}, 2$  7. (a)  $\frac{-13}{7}$  (b)  $\frac{11}{35}$  (c)  $\frac{-13}{51}$  (d)  $\frac{-11}{4}$   
 8. (a)  $\frac{-7}{17}$  (b)  $\frac{-9}{26}$  (c)  $\frac{-16}{13}$  (d) 1 9. (a)  $\frac{16}{75}$  (b)  $\frac{-9}{10}$  10.  $\frac{1}{4}$  11.  $\frac{-144}{5}$  12.  $\frac{5}{12}$   
 13. (a)  $x = \frac{-1}{56}$  (b)  $x = \frac{-14}{15}$  (c)  $x = \frac{24}{35}$  14. (a) 0.4 (b)  $0.\overline{857142}$  (c) 0.06 (d)  $0.41\overline{6}$   
 15. (a)  $\frac{1}{40}$  (b)  $\frac{63}{20}$  (c)  $\frac{230}{9}$  (d)  $\frac{188}{495}$  16. (a)  $8\frac{31}{990}$  (b)  $\frac{35}{99}$  (c)  $1\frac{461}{990}$  (d)  $41\frac{649}{990}$   
 17.  $\frac{100}{9}$  18. (a)  $\frac{77}{27}$  (b)  $\frac{113}{50}$

### Ch-3 Fractions

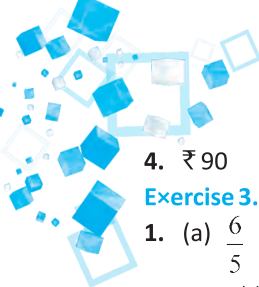
#### Exercise 3.1

1. (a)  $\frac{9}{7}$  (b)  $\frac{18}{13}$  (c)  $\frac{4}{5}$  2. (a)  $\frac{3}{14}$  (b)  $\frac{5}{34}$  (c)  $\frac{83}{21}$  3. (a)  $\frac{19}{2}$  (b)  $\frac{95}{9}$  (c)  $\frac{111}{10}$   
 4. (a)  $\frac{8}{10}, \frac{12}{15}, \frac{16}{20}, \frac{20}{25}$  (b)  $\frac{16}{22}, \frac{24}{33}, \frac{32}{44}, \frac{40}{55}$  (c)  $\frac{26}{30}, \frac{39}{45}, \frac{52}{60}, \frac{65}{75}$  5.  $7\frac{1}{2}$

#### Exercise 3.2

1. (a)  $\frac{35}{11}$  (b)  $\frac{19}{2}$  (c)  $\frac{42}{5}$  (d) 6 (e)  $\frac{56}{9}$  (f)  $\frac{64}{3}$  2. (a)  $\frac{21}{2}$  (b)  $\frac{18}{11}$  (c)  $5\frac{5}{6}$   
 (d)  $8\frac{1}{2}$  (e)  $22\frac{2}{9}$  (f)  $\frac{56}{405}$  3. (a)  $3\frac{1}{3}$  (b)  $\frac{2}{5}$  (c)  $\frac{1}{6}$  (d)  $\frac{68}{665}$





4. ₹ 90      5.  $22\frac{1}{2}$  km      6.  $7\frac{1}{2}$  litres

### Exercise 3.3

1. (a)  $\frac{6}{5}$       (b)  $\frac{25}{6}$       (c)  $\frac{31}{21}$       (d)  $\frac{13}{22}$       2. (a)  $\frac{2}{27}$       (b)  $\frac{1}{10}$       (c)  $\frac{3}{44}$       (d)  $\frac{31}{49}$   
 3. (a)  $\frac{44}{3}$       (b)  $\frac{1000}{3}$       (c)  $\frac{7}{5}$       (d)  $\frac{84}{5}$       4.  $\frac{203}{66}$       5. 16 pen      6.  $130\frac{1}{2}$  kg      7. ₹  $48\frac{3}{4}$       8. ₹ 946

### Revision Exercise

1. (a) (iii)      (b) (iii)      (c) (iv)      (d) (iii)      (e) (ii)      (f) (ii)      (g) (ii)      (h) (i)  
 2. 3      3. ₹ 26      4. 15 km      5. ₹ 140      6.  $\frac{4}{3}$  litres      7. 7 girls      8. 233 students      9. 49 km

### Ch-4 Decimals

#### Exercise 4.1

1. (a) 227.794      (b) 11.145      (c) 643.754      (d) 645.985      2. (a) 1.727      (b) 111.462      (c) 10.102      (d) 221.40  
 3. (a)  $60+7+\frac{4}{10}+\frac{8}{100}$       (b)  $900+20+5+\frac{3}{10}+\frac{7}{100}+\frac{9}{1000}$       (c)  $200+40+9+\frac{0}{10}+\frac{0}{100}+\frac{7}{1000}$   
 (d)  $200+80+7+\frac{2}{10}+\frac{3}{100}+\frac{9}{1000}$       4. (a) 7.432, 84.002, 72.500      (b) 5.390, 28.024, 987.700      (c) 25.730, 19.553, 6.759, 9.300

5. 49.71 km

#### Exercise 4.2

1. (a) 79.5      (b) 145      (c) 1530      (d) 675      (e) 5.5      (f) 3567      (g) 279010      (h) 2873.3  
 2. (a) 350.474      (b) 140      (c) 87.36      (d) 29.7      (e) 157.76      (f) 27572.4      (g) 26077.8      (h) 24.475  
 3. (a) 14.3715      (b) 17.358      (c) 3.9345      (d) 598.558      (e) 153.552      (f) 139.649      (g) 0.9375  
 (h) 0.16605      4. 164.01 km      5. 320.41 m<sup>2</sup>

#### Exercise 4.3

1. (a) 0.2      (b) 0.1      (c) 1.8      (d) 0.63      (e) 3.99      (f) 2      2. (a) 0.1728      (b) 0.926  
 (c) 0.005685      (d) 0.075399      3. 13.63      4. 0.95 cm<sup>2</sup>      5. ₹ 15050

#### Exercise 4.4

1. (a) 7000 ml      (b) 25000 m      (c) 3500 gm      (d) 2.900 kg      (e) 5000 l      (f) 2.945 kg      (g) 0.00725 l      (h) 2 m  
 2. 26 books      3. 124.23 kg      4. 4525 kg      5. 106.8 cm and 1.068 m

### Revision Exercise

1. (a) (ii)      (b) (iii)      (c) (iv)      (d) (iii)      (e) (iii)      (f) (ii)      (g) (iii)  
 2. ₹ 14400.00      3. 32 round      4. ₹ 1213.10 extra money required      5. ₹ 823.50  
 6. 48.267 m<sup>2</sup>      7. 725.5 kg      8. 20.58 litres      9. ₹ 8055.00      10. 29.25 km

### Ch-5 Exponents and Powers

#### Exercise 5.1

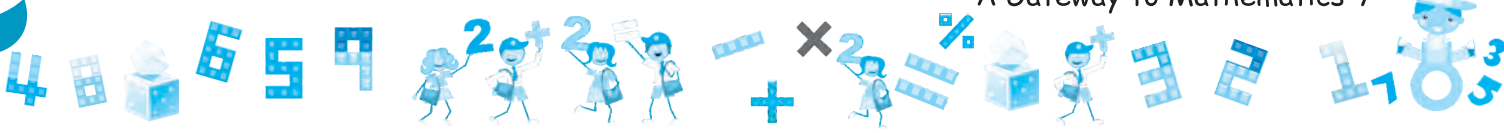
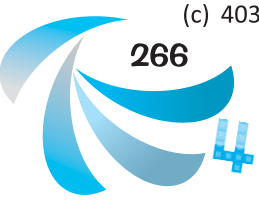
1. (a) 64      (b) 2187      (c) 125      (d) 256      (e) 729      (f) -343  
 2. (a) base = 5, exponent = 3      (b) base = -5, exponent = 4      (c) base = -1, exponent = 11      (d) base = y, exponent = m  
 (e) base = m, exponent = y      (f) base = -100, exponent = 5      3. (a) y<sup>3</sup>      (b) 95      (c) a<sup>2</sup>      (d) (7)3(3)2      (e) (n)3 (m)2  
 (f) (x)3 (y)2 (z)2      4. (a) 91 is greater      (b) 36 is greater      (c) 910 is greater >      (d) 52 > (-2)5  
 (e) (10)1 > (-1)10      (f) (3)7 > (7)2 X3      5. (a) 3 × 5 × 5 = 3 × 5<sup>2</sup>      (b) 23 × 32 × 53      (c) 54      (d) 34 × 5  
 (e) 24 × 32 × 52      (f) 33 × 52      6. (a) 3000      (b) 3072      (c) 6400      (d) 2304      (e) 225      (f) 500  
 7. (a) -50      (b) -64      (c) -8      (d) 40      (e) 30375      (f) 256

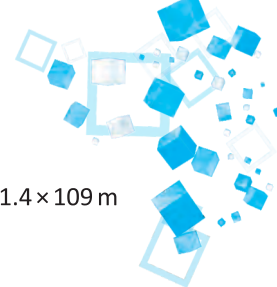
#### Exercise 5.2

1. (a)  $22 \times 32$       (b)  $5^4$       (c)  $a^2 b$       (d)  $2^1$       (e)  $p^{12}$       (f)  $2^{10}$       (g)  $5^2 \times 2^{-1} \times 3^{-1}$       (h)  $3^2 p^2 = (3P)^2$   
 2. (a)  $5^2 + 4 + 3 = 59$       (b)  $-35 + 4 = (-3)9$       (c)  $p^4 + 5 = p^9$       (d)  $5^{15}$       (e)  $10^{x^3}$       (f) 1      (g)  $(m \times n)^7$       (h)  $3^3 + 2 = 35$   
 (i)  $8^x - 3$       3. (a)  $2^8 \times 34$       (b)  $24 \times 31 \times 53$       (c)  $3^{10}$   
 (d)  $211 \times 31 \times 52$       (e)  $(37) \times (54)$       4. (a)  $2^{14} \times (5/7)^3$       (b)  $2^{10} \times 5^3$       (c)  $\frac{3}{7^3}$   
 5. (a) False      (b) False      (c) False      (d) False      (e) True      6. (a)  $x = 8$       (b)  $x = 21$       (c)  $x = 19$       (d)  $x = 3$

#### Exercise 5.3

1. (a)  $9 \times 10^5 + 3 \times 10^4 + 4 \times 10^3 + 6 \times 10^2 + 5 \times 10^1 - 7 \times 10^0$       (b)  $8 \times 10^7 + 8 \times 10^{-4} + 8 \times 10^2 + 7 \times 10^0$   
 (c)  $3 \times 10^6 + 2 \times 10^5 + 1 \times 10^4 + 3 \times 10^2 + 1 \times 10^0 + 2 \times 10^0$       (d)  $7 \times 10^4 + 1 \times 10^1 + 8 \times 10^0$   
 2. (a) 7005030      (b) 57890  
 (c) 403050      (d) 76100





3. (a)  $9 \times 10^7$  (b)  $4.1569 \times 10^9$  (c)  $5.9 \times 10^5$  (d)  $5.9 \times 10^5$   
 4. (a)  $3 \times 10^8$  m (b)  $1.2756 \times 10^6$  m (c)  $1.2 \times 10^{10}$  Years (d)  $1.027 \times 10^9$  (e)  $3.84 \times 10^8$  m (f)  $1.4 \times 10^9$  m

### Revision Exercise

1. (a) (ii) (b) (iv) (c) (ii) (d) (iii) (e) (iii) (f) (iii) (g) (ii) (h) (iii) (i) (i)  
 2. (a) 256 (b) 1024 (c) 125 (d) 46656 (e) 243 (f) -343 3. (a) base = 7, power = 7 (b) base = -11, power = 10  
 (c) base = xy, power = a (d) base = m, power = 0 (e) base = 101, power = 1 (f) base = x, power = y  
 4. (a)  $m^3$  (b)  $(-1)^4$  (c) 35 (d)  $23 \times m \times n$  (e)  $53 \times 72$  (f)  $m^3 \times n^2 \times p^3$   
 5. (a) 53 (b) equal (c)  $(-2)^3$  (d) 72 (e) 54 (f)  $(-1)^3$   
 6. (a)  $5 \times 22 \times 33$  (b)  $53 \times 72$  (c)  $25 \times 52 \times 3$  (d)  $23 \times 3^4$   
 7. (a) 500000 (b) 225 (c) 64 (d)  $(-4)^{120}$  (e)  $m^9$  (f) 0.25  
 8. (a)  $26 \times 35 \times 57$  (b) 215 (c) 54 (d)  $517 \times 310$  9. (a) False (b) False (c) True (d) True  
 10. (a)  $y=5$  (b) (c)  $y=6$  (d)  $y=14$   
 11. (a)  $5 \times 10^5 + 7 \times 10^3 + 3 \times 10^2 + 4 \times 10 + 5 \times 100$  (b)  $5 \times 10^6 + 7 \times 10^2 + 8 \times 10 + 5 \times 100$   
 (c)  $4 \times 10^5 + 9 \times 10^4 + 5 \times 10^3 + 7 \times 10^2 + 8 \times 10 + 1 \times 100$  (d)  $6 \times 10^5 + 7 \times 10^4 + 9 \times 10^3 + 1$   
 12. (a) 50830201 (b) 460094 13. (a)  $7 \times 10^7$  (b)  $3.1678 \times 10^9$  (c)  $1.353 \times 10^9$

### Formative Assessment - 1

- A. 1. (ii) 2. (i) 3. (i) 4. (iii) 5. (iii) 6. (iii) 7. (iv) 8. (iv) 9. (ii) 10. (i)  
 B. 1.  $\frac{13}{3}$  2. multiplication inverse 3. standard 4. litre 5. zero 6. mixed 7. decima 8. proper 9. irrational numbers 10. integers  
 C. 1. F 2. T 3. F 4. T 5. F 6. T 7. F 8. F 9. F 10. T

### Ch-6 Algebraic Expression

#### Exercise 6.1

1. (a)  $x + 250$  (b)  $x - 670$  (c)  $100 - a \times b$  (d)  $(x + x + 1 + x + 2)^2$  (e)  $(x)^2 + (x+1)^2$   
 2. **Algebraic Expression**    **Terms**    **Numerical factor**    **Literal Factor**  
 (a)  $5x - 6$      $5x, -6$      $5, -6$      $x$   
 (b)  $-5x + 8$      $-5x, 8$      $-5, 8$      $x$   
 (c)  $5x^2 - 6x$      $5x^2, -6x$      $5, -6$      $x^2, x$   
 (d)  $x^2y^2 - 6xy$      $x^2y^2, -6xy$      $1, -6$      $x^2y^2, xy$   
 3. (a)  $15r^5z$  (b)  $15p^3z$  (c)  $15q^4z$  (d)  $15z$  4. (a)  $4x^2y, 4y$  (b)  $x^2, 1$  (c)  $x^2y^2, y^2$   
 5. (a) like =  $ab^2, 5b^2a$ , unlike =  $6a^2b, 11ab$  (b) like =  $(xyz, zyx)$ , unlike =  $zy^2x, zx^2b$   
 (c) like =  $17b, 15b$ , unlike =  $14a, 18bc$  (d) like =  $7x^2y^2z^2, 5y^2z^2x^2$  unlike =  $3xyz, -5xy^2z$   
 6. (a) constant (b) Binomial (c) Trinomial (d) Monomial 7. (a) -11 (b) No (c) No (d) 15  
 8. (a)  $xy$  (b)  $mn^2$  (c)  $xyz^2$  (d)  $xyz^2$

#### Exercise 6.2

1. (a)  $11x + 10y$  (b)  $6x + 5y + 14$  (c)  $10x + 5y$  (d)  $8x - 3y - 5z$  2. (a)  $4x^3 + 3x^2y + xy^2 - 2y^3$   
 (b)  $-3m^4 + 6m^3n - 3mn^3 + m^2n^2 + 11n^2$  3. (a)  $6x^2 - 6y^2$  (b)  $m^2 - 4mn$  4.  $2x + 11y + 16z$  5.  $-m^2 + 3mn$

#### Exercise 6.3

1. (a) 10 (b) 1 (c) 3 (d) 21 2. (a) 8 (b) -5 (c) -1 (d) -5  
 3. (a) 32 (b) 0 (c) 0 (d) -16 4. 179 5. 64 6. 31

#### Exercise 6.4

1. (a) 10, 22, 31, 61 (b) 9, 25, 37, 77 (c) 20, 40, 55, 105 (d) 14, 54, 105, 405 2.  $4x$  3.  $m \times n = mn$  4. 6 cm

### Revision Exercise

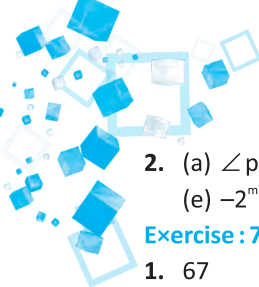
1. (a) (ii) (b) (iv) (c) (iii) (d) (i) (e) (ii) (f) (iv) (g) (ii) (h) (i) (i) (ii) (j) (iii)  
 2. (a)  $2x - 2 + 2x + 2x + 2 = 111$  (b)  $x + 1000$  (c)  $x - 90$  (d)  $676 - m \times n$  3. (a) -10 (b) 9, 11 (c) 8, -5 (d) -7  
 4. (a)  $pq^2, 7q^2p$  (b)  $abc, cab$  (c)  $111b, 11b$  (d)  $5 \times 2y^2z^2, 9y^2z^2 \times 25$ . (a)  $xy^2z$  (b)  $a^2b$  (c)  $x^2a^2m^2$  (d)  $x^2y^5$   
 6. (a)  $5p^3 - 12p^2q + 16pq^2 + q^3$  (b)  $-4x^4 - 4xy^3 + 7x^3y^2 - 2x^2y^2 + 16y^2$  7. (a)  $8p^2 - 11q^2$  (b)  $4x^2 - 3xy$   
 8.  $-2m^3 - 7m^2 + 7m + 2$  9. (a) 11 (b) 7 (c) 198 (d) 4 10. 329  
 11. Area =  $m \times n$  and Perimeter =  $(m+n) \times 2$

### Ch-7 Simple Linear Equation

#### Exercise: 7.1

1. (a) 32 added to 6 times m gives 62 (b) 31 added to  $\frac{7}{8}$  times x gives 120 (c) 10 subtracted from half of t gives 103  
 (d) 5 times l gives 125 (e) 30 subtracted from d gives -20 (f) 35 added to 5 times a gives 0  
 (g) 4 subtracted from one-third x gives 4 (h)  $\frac{15}{16}$  times q gives 225





2. (a)  $\angle p + \angle p + \angle 2p = 180^\circ$  (b)  $80x + 60 = 365$ ,  $80x - 305 = 0$  (c)  $x/200 + 40 = 1000$  (d)  $3x - 100 = 330$   
 (e)  $-2^{m^3} - 7^{m^2} + 7m + 2$  3. (a)  $\checkmark$  (b)  $\checkmark$  (c)  $\times$  (d)  $\times$  4. (a) No (b) No (c) No

**Exercise : 7.2**

1. 67 2.  $64.5^\circ, 24.7^\circ$  and  $90.8^\circ$  3. Sunita's age = 18 years ; Kamal's age = 12 years 4. ₹125  
 5.  $\frac{42}{52}$  6. (a)  $\frac{1}{5}t + 10 = 14t$  (b)  $\frac{y}{88} = 4$  (c)  $19r - 10 = 180$  (d)  $7r + 11 = 81$   
 (e)  $\frac{(x \times 7) + 110}{100} = \frac{12}{13}$  (f)  $\frac{(200 - m)}{17} = \frac{1}{6}$  7. (a) No (b) No (c) Yes (d) Yes  
 8. (a) Six times of x gives 139.  
 (b) A number x is multiplied by 17 and 21 is added to it. This entire term is divided by 121, we get 87.  
 (c) 108 subtracted from five times of gives 12.  
 (d) 25 is subtracted from of a number l gives 75.  
 (e) A number p is multiplied by 87 and 100 is added to it, the result is 13.  
 (f) Seven is added to one Sixth of a number. This entire term is multiplied by 3, we get 3.  
 9. 8 10.1 11. 13 12. 3 13. (a) 70 (b) 10 (c) -7 (d) 20 14. 17, 18, 19  
 15. (a) simple (b) changed (c) 53 (d) 63 (e) 3 16. p = ₹816 17. 150 km 18. 42 and 24  
 19. Dolly earns ₹ 18000, Sally earns ₹ 15000. 20. 10

**Revision Exercise**

1. (a) (iv) (b) (iii) (c) (iv) (d) (iii) (e) (iii) (f) (iv) (g) (ii) (h) (iii) (i) (iii) (j) (iv)  
 2. (a)  $\frac{k}{17} = 10$  (b)  $7x + 10 = 310$  (c)  $\frac{7}{6}x + 21 = 121$  (d)  $7b - 2 = 112$   
 3. (a) One hundred eleven added to seven times p gives two hundred one. (b) A number of by subtracted twelve gives twenty.  
 (c) Ten added to five times of x gives fifteen. (d) 7 is added to x then divided by 3 and 2 more is added equal to the 10.  
 4. (a)  $x = -2$  (b)  $x = 48$  (c)  $x = 11$  (d)  $x = 3$  (e)  $x = 1$  5. Present age of Rupa is = 25 years 6. 6  
 7. (a)  $2p + 11 = 0$ ,  $4p + 22 = 0$ ,  $6p + 33 = 0$  (b)  $7x - 18 = 0$ ,  $14x - 36 = 0$ ,  $21x - 54 = 0$  (c)  $14y - 84 = 0$ ,  $7y - 42 = 0$ ,  $2y - 12 = 0$   
 (d)  $72l - 91 = 0$ ,  $144l - 182 = 0$ ,  $216l - 273 = 0$  8. 2 9. 90 and 72 10. 17 11. 19

**Ch-8 Ratio and Proportion**

**Exercise 8.1**

1. Raja = 105000, John = 45000, Supriya = 75000 Rs. 2. 8 cm, 12 cm, 16 cm  
 3. (a)  $5:7 < 4:5$  (b)  $3:2, 11:13, 5:7$  (c)  $100:1$  (d)  $8:5$  4.  $333:969, 444:1292, 555:1615$  5.  $7:2$

**Exercise 8.2**

1.  $13:22$  2. A = ₹ 240, B = ₹ 360, C = ₹ 504 3. 54 4.  $\frac{12}{13}$  5. 132, 88 and 66. 6. 44

7. No. of orange	(a) 12 oranges	(b) 48 oranges	(c) 200 oranges	8. 630 km
Weight	1800 gm	7200 gm	30000 gm	9. 3 days
	1.800 kg	7.200 kg	30 kg	10. 1000 km

**Exercise 8.3**

1. 4 days 2. 2.5 days 3. ₹2310 4. Sonu = ₹ 67.5 and Monu = ₹ 157.5 5. ₹ 14000 6. 3 days 7. 3 hours  
 8. 3 days 9. 40 minutes 10. 19 km

**Revision Exercise**

1. (a) (iii) (b) (iii) (c) (iii) (d) (i) (e) (iv) (f) (i) (g) (iv)  
 2. A = 5,10,000 B = 11,90,000 C = 8,50,000 Rs. 3.  $\frac{228}{8} > \frac{121}{7}$  4. 40 days 5. 1050 km  
 6. (a)  $576 = 576$  direct proportion (b)  $1532.16 = 1532.16$  in inverse proportion  
 7. (a) 27 (b)  $\frac{5}{7}$  8.  $\frac{2}{5} < \frac{1}{2} < \frac{3}{5} < \frac{9}{13} < \frac{5}{7}$  9. 17 10.  $\frac{1}{7}$  11. 450 workers

**Ch-9 Percentage and its Applications**

**Exercise 9.1**

1. (a) 60% (b) 37.5% (c) 33.33% (d) 75% 2. (a) 12.5% (b) 24% (c) 275% (d) 240%  
 3. (a) 25% (b) 340% (c) 125% (d) 220% 4. (a) 16% (b) 125% (c) 62.5% (d) 26525%  
 5. (a)  $\frac{9}{25}$  (b)  $\frac{5}{4}$  (c)  $\frac{1}{8}$  (d)  $\frac{2}{25}$  6. (a) 2:125 (b) 13:20 (c) 3:8 (d) 21:200





7. (a) 0.18 (b) 0.225 (c) 2.25 (d) 0.01123  
 8. (a) 10/ (b) ₹ 6375 (c) 300 kg (d) 75 km (e) 3 minutes 36 seconds (f) 13.5  
 9. (a) 500 (b) 480 (c) 240 (d) 280 10. 33.33% 11. 20,000 12. Mukesh 13. 800 marks  
 14. 400 candidates 15. ₹ 25714 16. ₹ 2,50,000 17. 8000 students

### Exercise 9.2

1. (a) ₹ 2175 (b) ₹ 1300 (c) ₹ 2510.75 (d) ₹ 114.75 2. (a) ₹ 800 (b) ₹ 2237 (c) ₹ 1395.5 (d) ₹ 746  
 3. (a) Profit = ₹ 90 and Profit% = 20% (b) Selling Price = ₹ 2640 and Profit = ₹ 440  
 (c) Cost Price = ₹ 600 and Profit% = 10% (d) Cost Price = ₹ 150 and Profit% = 20% (e) Cost Price = ₹ 720 and Selling Price = ₹ 828  
 4. SP. = ₹ 15,600 5. ₹ 48 per dozen 6. ₹ 30000 7. ₹ 26000 8. 1.5% profit 9. 25%  
 10. ₹ 5312.5 11. 58.33% 12. ₹ 1200 13. 3.57% 14. ₹ 675 15. (a) ₹ 60 per kg (b) ₹ 80 per kg

### Exercise 9.3

1. (a) Amount = ₹ 2016 and Time = 2 years (b) Amount = ₹ 6200 and Rate = 6% (c) Principal = ₹ 562.50 and Interest = ₹ 337.5  
 (d) Principal = ₹ 4000 and Time = 2.5 years 2. P = ₹ 4000 3. P = ₹ 21484.6 4. 16.67% 5. ₹ 312.5 6. 4 years  
 7. 12.5% 8. P = ₹ 4000, R = 5% 9. R = 12.5%, A = ₹ 13500 10. P = ₹ 6000

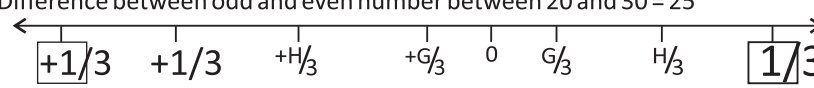
### Revision Exercise

1. (a) (iii) (b) (iii) (c) (i) (d) (iv) (e) (ii) (f) (iii) (g) (iv) (h) (iii) 2. (a) 75% (b) 50%  
 (c) 62.5% (d) 25% 3. (a) ₹ 37.5 (b) 62/ (c) ₹ 128 km (d) 0.24 kg 4. Sehwaq – 266.66% 5. 11.1%  
 6. 500 marks 7. 33.3% 8. Loss 4% 9. ₹ 1500 10. ₹ 200 11. Amount = ₹ 8000 12. 7 years  
 13. Rate = 8% 14. P = ₹ 6250

### Formative Assessment-II

- A. 1. (iv) 2. (iii) 3. (iv) 4. (ii) 5. (iii) 6. (iii) 7. (iii) 8. (iv) 9. (i) 10. (iv)  
 B. 1. trinomial 2. literal 3. balancing 4. continued 5. amount 6. factor 7. constant term  
 8. consequents 9. percentage 10. interest  
 C. 1. T 2. F 3. T 4. F 5. F 6. F 7. T 8. F 9. F 10. T

### Summative Assessment-I

- A. 1.  $= 64 \times (100 + 5) = (64 \times 100) + (64 \times 5) = 6720$  2.  $\frac{1}{4}$  3.  $\frac{5}{4}$  4. 333.315 5.  $\left(\frac{-3}{2}\right)^5$  6. -11  
 7. 14, 15, 16 8. ₹ 1000 9. 16000 10. 20% Profit 11. ₹ 1437.5  
 B. 12. Difference between odd and even number between 20 and 30 = 25  
 13.   
 14. 15. Do it yourself 16.  $9x^4 - 7x^3 + 6x^2 - 12$  17.  $\frac{2}{7}$   
 18. (a) 11:9 (b) 9:20 (c) 11:20 19. Profit 4.3% 20. 8 years 4 months 21. 300  
 C. 22. (a) 240 (b) No 23.  $\frac{-41}{63}$  24. 41.6% profit  
 25. Value of first prize = 1050, value of second prize 875 and value of third prize = 700 26. 30, 120 27. Paid interest = ₹ 36000

## Ch-10 Triangle and Its Properties

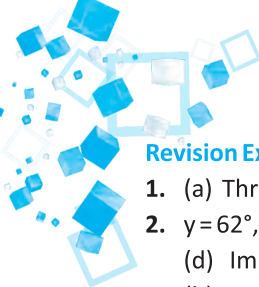
### Exercise 10.1

1.  $20^\circ, 60^\circ, 100^\circ$  2.  $360^\circ$  3. (a)  $P = 65^\circ, P = 65^\circ$  (b)  $P = 70^\circ$  (c)  $P = 30^\circ, 2P = 60^\circ$  (d)  $P = 50^\circ, Y = 80^\circ$   
 (e)  $y = 60^\circ, P = 70^\circ$  4. (a)  $a = 112^\circ, b = 147^\circ$   
 5. (a) The sum of all angles of a triangle is equal to  $180^\circ$ . A triangle can not have two angles of  $90^\circ$  each. (b) Yes  
 (c) Scalene Triangle (d) Equilateral Triangle 6. (a)  $58^\circ, 58^\circ$  and  $64^\circ$  7. (a) Vertically opposites  
 (b) Alternate interior angles (c) Corresponding angles (d) Exterior angle (e) Interior angles (f) Right angles  
 8. (a) An equilateral triangle have all three sides equal but an isosceles triangle have only 2 equal sides.  
 (b) An equilateral triangle have all three angles equal but an isosceles triangle have two angles equal.  
 9. (a)  $x = 66^\circ$  (b)  $y = 92^\circ$  (c)  $y = 22^\circ$  10. 2 cm and 14 cm

### Exercise 10.2

1. 25 km 2. 25 cm 3. Perimeter = 68 cm. 4. Length of diagonal = 13 cm.  
 5. Since  $6^2 + 4.5^2 = 7.5^2$  (Pythagoras theorem) 6.  $x = 115^\circ, y = 65^\circ, z = 25^\circ$





### Revision Exercise

- (a) Three angles (b)  $90^\circ$  (c)  $AB^2+BC^2=AC^2$  (d) Longest side (e) No (f) None of these (g) Less than  $90^\circ$
- $y = 62^\circ, x = 148^\circ$  (d) Impossible (b) Do it yourself
- (a) Possible Scalene (b) Possible, Scalene Triangle (c) Possible, Scalene Triangle (e) Possible, Scalene Triangle
- (a) The sum of all angles of a triangle is equal to  $180^\circ$ .
- third angle =  $43^\circ$ , acute angle, (b)  $19^\circ$
- (a) A scalene triangle have all sides unequal but an isosceles triangle have two equal sides and one different. (b) Do it yourself (c)  $X = 60^\circ, Y = 70^\circ$  (g) longest (h) greater
- (a)  $40^\circ, 60^\circ, 80^\circ$  (b)  $107^\circ$  (c)  $152^\circ$  (d) equilateral (e)  $90^\circ$  (f) 98m
- Do it yourself
- $x = 70^\circ, y = 50^\circ, z = 60^\circ$  Do it yourself
- $135^\circ$  13.  $\angle P + \angle Q + \angle R + \angle S + \angle X + \angle T = 360^\circ$  14. 6 cm and 16 cm 15. Do it yourself 16.  $x = 120^\circ, y = 60^\circ, z = 70^\circ$

### Ch-11 Congruence

#### Exercise 11.1

- TM  $\cong$  XY (given) XY  $\cong$  MN (given)  $\therefore$  MN  $\cong$  TM
- Do it yourself
- (a) One side of a square is congruent to any one side of the other square. (b) They have a equal length and breath. (c) Their length are equal. (d) The radius of two circle are equal. (e) Their measures are equal.
- (a)  $\angle P$  (b)  $\overline{QR}$  (c)  $\angle R$  (d)  $\overline{PQ}$  5.  $60^\circ$  6. Do it yourself 7. Do it yourself

#### Exercise 11.2

- Do it yourself
- Do it yourself
- $\angle 6 = \angle 3, \angle 4 = \angle 2, \angle 5 = \angle 1, TQ = DM, TB = DR, QB = MR$
- $\triangle QTN \cong \triangle RSN$  (by SAS) 5. Because, AAA is rarely seen in congruence of triangles. 6.  $\triangle AXM \cong \triangle BMY$  (by SSS)
- (a) T (b) T (c) T (d) T 8. Yes, because their angles are congruent. 9. Yes 10. Do it yourself

### Revision Exercise

- (a) (iv) (b) (iv) (c) (iii) (d) (ii) (e) (ii) (f) (iii) (g) (ii) (h) (iv) 2. Do it yourself 3. No, because  $RT^1 DB$
- In  $\triangle XYZ$  and  $\triangle YPZ$  XY = YP (given)  $\angle XYZ = \angle LPZ$  (given) YZ = YZ (common)  $\therefore \triangle XYZ \cong \triangle YPZ$  (by SAS)
- $\triangle DEF \cong \triangle PEF$  (c) areas
- $p = 22^\circ, q = 40^\circ$  (d) congruent (e) AAA
- Do it yourself (f)  $70^\circ$  (g) RHS
- Yes
- (a) 4.5 cm (b) PQ

### Ch-12 Perimeter and Area

#### Exercise 12.1

- 21.6 m
- (a) 32 cm (b) 18 cm
- (a) 18 cm (b) 27 cm (c) 36.9 cm
- 37 m
- 16.6 cm
- Length = 36m, Breath = 12 m
- Length = 196cm, Breath = 147cm
- 24m, 36m and 48m
- Side = 21cm
- (a) 20cm (b) 38m (c) 30.4cm (d) 56m

#### Exercise 12.2

- (a)  $120m^2$  (b)  $45m^2$  (c)  $90m^2$  (d)  $58m^2$  2. (a)  $56.25m^2$  (b)  $169m^2$  (c)  $51.84m^2$  (d)  $144m^2$  3.  $80cm^2$
- 16m
- (a)  $84m^2$  (b)  $19.2m^2$  6.  $432m^2$  7.  $180m^2$  8. 75m and 50m 9.  $31cm^2$
- $F = 7cm^2, L = 5cm^2, M = 9cm^2, H = 7cm^2$  and  $J = 6cm^2, T = 5cm^2$  11. 32m 12. 72m

#### Exercise 12.3

- (a)  $111m^2$  (b)  $225m^2$  2.  $445m^2$  3. ₹1462.5 4.  $4875m^2$  5. ₹4608 6. ₹90900 7. ₹1472.5 8.  $824m^2$
- (a)  $200cm^2$  (b)  $56m^2$

#### Exercise 12.4

- (a) 176cm (b) 22cm (c) 66m (d) 26.4cm 2. (a) 22m (b) 13.2cm (c) 264m (d) 44m 3.  $7546m^2$
- $616cm^2$  5.  $3758.86m^2$  6.  $182.5m^2$  7.  $638m^2$  8.  $1386m^2$  9.  $990cm^2$  10. (a)  $119m^2$  (b)  $192.5m^2$

### Revision Exercise

- (a) (iii) (b) (ii) (c) (i) (d) (iv) (e) (ii) (f) (ii) (g) (iv) (h) (iii) 2. Length = 42.5m, Breath = 17m
- 36m, 24m and 24m 4. 56 m 5. Rahul, 270m 6.  $12500m^2$  7. 98m 8.  $4608m^2$
- Base 91m, altitude = 52m 10. ₹ 1120 11.  $411m^2$  12.  $3500m^2$  13. 5280m 14. (a)  $70.56m^2$  (b)  $154cm^2$  (c)  $81.44cm^2$

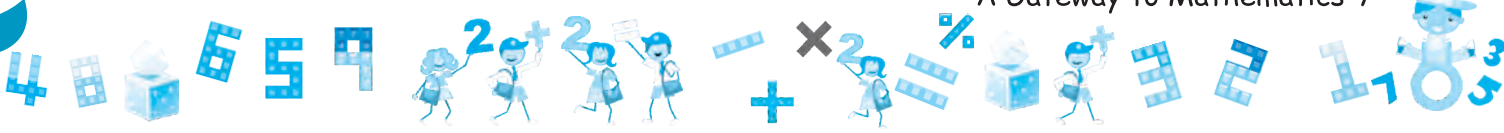
### Ch-13 Construction Geometry

#### Exercise 13.1

Do it yourself

#### Exercise 13.2

- Do it yourself
- (a) Yes (b) Yes (c) No (d) Yes
- Do it yourself
- Do it yourself
- Do it yourself
- Do it yourself
- Do it yourself
- Do it yourself
- Do it yourself
- Do it yourself





### Revision Exercise

1. (a) 1 (b)  $180^\circ$  (c) 2.5 cm, 8.5 cm, 3.5 cm (d) 3.5 cm (e) (f)  $55^\circ$  (g) hypotenuse and a side is given.  
 (h) compasses (i) parallel to each other. (j) 2 2. Do it yourself 3. Do it yourself  
 4. Do it yourself 5. Do it yourself 6. Do it yourself 7. Do it yourself 8. Do it yourself  
 9. Do it yourself 10. Do it yourself 11. (a) Yes (b) No (c) Yes (d) Yes  
 12. Do it yourself 13. Do it yourself

### Formative Assessment-III

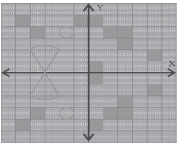
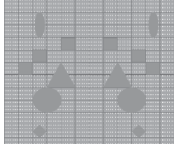

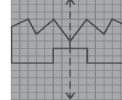
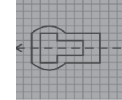
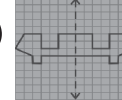
- A. 1. (ii) 2. (i) 3. (iii) 4. (ii) 5. (iii) 6. (ii) 7. (iv) 8. (ii) 9. (iv) 10. (iv)  
 B. 1. one angle 2. line of 3. infinite 4. sum 5. 17 6. isosceles triangle 7.  $60^\circ$   
 8. greater 9. 0 10. symmetric  
 C. 1. T 2. T 3. F 4. F 5. T 6. T 7. T 8. T 9. F 10. T

### Ch-14 Symmetry

#### Exercise 14.1

1. (a) 2 (b) Infinite (c) Four (4) (d) 4 (e) 3 (f) 5 (g) No (h) 2 (i) 6 (j) 1  
 (k) 1 (l) 1 2. Do it yourself  
 3.  $\text{A } \text{B } \text{C } \text{D } \text{E } \text{F } \text{G } \text{H } \text{I } \text{J } \text{K } \text{L } \text{M } \text{N } \text{O } \text{P } \text{Q } \text{R } \text{S } \text{T } \text{U } \text{V } \text{W } \text{X } \text{Y } \text{Z}$  4. (a) F (b) F (c) T (d) T (e) T


#### Exercise 14.2

1. Do it yourself 2.  3.  4. (a)  (b)  (c)  (d) 

#### Exercise 14.3

1. Do it yourself 2. (a) 3 (b) 4 (c) 2 3. (a) Octagon (b) Hexagon (c) Square (d) Equilateral triangle  
 4. A(4, -10), B(0, 0) 5. (a) (-2, -3) (b) (5, -4) (c) (-4, 2) (d) (5, 3) 6. (a) (2, -3) (b) (5, 4) (c) (-2, -4) (d) (-4, 6) 7. Do it yourself

### Revision Exercise

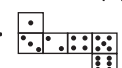
1. (a)  $P' \leftrightarrow (-3, -8)$  (b) eight (c) One point of rotation (d) rhombus (e) get inverted (f) reflection  
 (g) 2 (h) None of these 2.  $\text{V } \text{W } \text{X } \text{Y } \text{Z } \text{A } \text{B } \text{C } \text{D } \text{E } \text{F } \text{G } \text{H } \text{I } \text{J } \text{K } \text{L } \text{M } \text{N } \text{O } \text{P } \text{Q } \text{R } \text{S } \text{T } \text{U } \text{V } \text{W } \text{X } \text{Y } \text{Z}$  3.   
 4. (a) (7, 6) (b) (18, 12) (c) (-6, -20) (d) (-7, -21) (e) (0, 4) (f) (11, -8)  
 5. (a) (-6, -18) (b) (4, 9) (c) (7, -2) (d) (-10, 5) (e) (7, 0) (f) (0, -11)  
 6. (a) F (b) T (c) T (d) T (e) F (f) T (g) T (h) F (i) T (j) T 7. Do it yourself

### Ch-15 Representing 3-D in 2-D

#### Exercise 15.1

1. (a) Cylinder (b) Sphere (c) Sphere (d) Cylinder (e) Cuboid (f) Cuboid (g) Prism (h) Pyramid  
 2. Do it yourself 3. Do it yourself 4. (a) 0 (b) 0 (c) 8 (d) 1 (e) 5 vertices

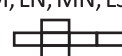

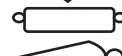

#### Exercise 15.2

1. Do it yourself 2. (a) blank (b) 0 (c) \$ (d) \* (e) \* and 0 (f) \$ (g) M and E  
 (h)  $M \rightarrow E, O \rightarrow *, \$$  blank 3. Do it yourself 4. (c) 5. 

#### Exercise 15.3

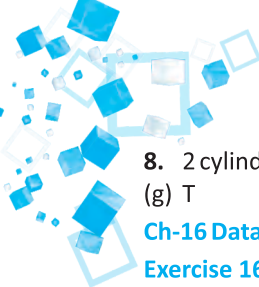
1. Do it yourself 2. Do it yourself 3. Do it yourself 4. Do it yourself

### Revision Exercise

1. (a) pyramid (b) none of these (c) on a squared paper (d) circle (e)  $V + F - E = 2$   
 (f) polyhedrons (g) rectangles (h) edge (i) tetrahedron  
 2. (a) Vertices - A, B, C, D, P, Q, R, S (b) Curve face (c) Vertices - L, M, N, R, S, T  
 Faces - ABCD, PQRS, ABQP, SRCD, ADSP, BCRQ Plane faces No edge Faces - LMN, RST, LMRS, LNST, MNTR  
 Edges - AB, BC, CD, AD, PQ, QR, RS, SP, AP, DS, BQ, CR Edges - LM, LN, MN, LS, SR, MR, NT, ST, RT  
 3. Do it yourself 4. (a) Horizontally  $\rightarrow$  Circle (b) Horizontally  $\rightarrow$  Square 7. (a)   
 Vertically  $\rightarrow$  Rectangle (c) Horizontally  $\rightarrow$  Triangle (d) Horizontally  $\rightarrow$  Triangle (b)   
 Vertically  $\rightarrow$  Circle (d) Horizontally  $\rightarrow$  Triangle (c)   
 Vertically  $\rightarrow$  Quadrilateral (d)   
 5. (a) 4 and 6 (b) 1 (c) 6 (d) 5 6. (a) cone (b) tetrahedron (c) cube (d) volleyball







8. 2 cylinders, height 16 cm and 12 cm  
 (g) T (h) T (i) F
9. Do it yourself 10. (a) F (b) T (c) F (d) T (e) T (f) F  
 (j) T

**Ch-16 Data Handling and Probability**

**Exercise 16.1**

1. Frequency distribution table :

Marks	Tally marks	Frequency
15		4
18	==	2
19		5
20		4
25		4
30		1
35		3
36		1
38		1

2. Pictograph of absentees :

(• represents 1 day)

Monday	• • • • •
Tuesday	• • •
Wednesday	• • •
Thursday	• •
Friday	• • • • • •
Saturday	• • • • •

3. (a) 2 laptops  
 (b) 22 laptops  
 (c) Wednesday

**Exercise 16.2**

1.  $\text{Mean} = \frac{80+150+16+46}{4} = \frac{292}{4} = 73$  Readers
3. Range = 32 Mean = 98.9 Median = 96 Mode = 90 & 96
4. Mean of first five odd number = 5 5. The value of x = 62

**Exercise 16.3**

1. (a) April (b) 400 (c) June (d) May  
 (c) 2006-07 4. Do it yourself
2. Do it yourself 3. (a) 4000 biscuits (b) 2003-04

**Exercise 16.4**

1. (a)  $\frac{1}{4}$  (b)  $\frac{7}{12}$  (c)  $\frac{1}{6}$  2. (a)  $\frac{1}{12}$  (b)  $\frac{1}{12}$  3. (a)  $\frac{1}{26}$  (b)  $\frac{1}{13}$  (c)  $\frac{1}{52}$  (d)  $\frac{1}{4}$
4. (a)  $\frac{1}{6}$  (b)  $\frac{1}{3}$  (c)  $\frac{11}{12}$  5. (a)  $\frac{1}{4}$  (b)  $\frac{1}{4}$  (c)  $\frac{3}{4}$

**Revision Exercise**

1. (a) (ii) (b) (iii) (c) (iv) (d) (ii) (e) (iii) (f) (iii) (g) (ii) 2. 6 hours 3. 294 4. 3
5. Do it yourself 6. (a)  $\frac{1}{26}$  (b)  $\frac{4}{13}$  (c)  $\frac{3}{13}$  7. (a)  $\frac{1}{5}$  (b)  $\frac{2}{5}$

**Formative Assessment-IV**

- A. 1. (iv) 2. (iii) 3. (ii) 4. (i) 5. (iii) 6. (iii) 7. (i) 8. (i) 9. (iv) 10. (ii)
- B. 1. 4 2. Statistics 3. concentric 4. congruent 5. 3 6. Perimeter 7. Radius  
 8. 4 x side 9. Area 10.  $\pi(R^2 - r^2)$
- C. 1. F 2. F 3. T 4. T 5. T 6. F 7. T 8. F 9. F 10. T

**Summative Assessment-II**

- A. 1. 21.7cm 2. 65° 3. Do it yourself 4. Edges =12; Faces =6; Vertices= 8  
 5. AB; PO; BC=OR ; AC=PR,  $\angle A = \angle P$ ;  $\angle B = \angle O$ ,  $\angle C = \angle R$  6. Do it yourself  
 7. 128m 8. 101.4 9. 3872 m 10. 8 cm<sup>2</sup> 11. COY =70°
- B. 12. 40°, 35°, 105° 13. 17 m 14. Do it yourself 15. Do it yourself 16. Do it yourself 17. Do it yourself 18. 280 m<sup>2</sup>  
 19. Mean = 113.8, Median = 117, Mode = 117 20. (a) 1/7 (b) 2/7 (c) 2/7 21. Base =44 m, height = 33 m
- C. 22. Do it yourself 23. 180°, 360°, order =2, 2 24. 41 cm 25. Do it yourself 26. Do it yourself 27. ₹ 61563.25  
 28. Do it yourself