

Level D MATHS BOOK

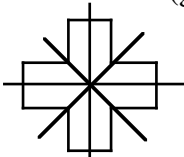
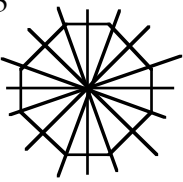
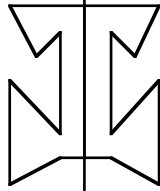
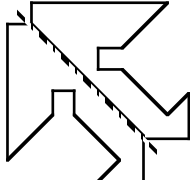
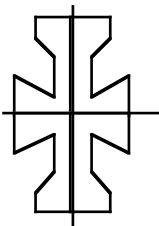
Topic in a Nutshell – Answers

****Please take
extra copy of
these answers****

Answers to Chapter 1 (pages 24/25)

1. Nine thousand, three hundred and eighteen
2. (a) 8761 (b) 42,010
3. 4101, 4090, 4010, 4001, 3992, 3039
4. (a) $P = 56$ $Q = 72$ $R = 250$ $S = 284$ (b) 28°C
5. (a) 1500 (b) 400
6. (a) 136 (b) 237 (c) 6000 (d) 54 (e) 1450
(f) 4300 (g) 11199 (h) 4938
7. 29
8. (a) 8191 (b) 4476 (c) 8895 (d) 7053
9. (a) 3071 (b) £2385 (c) 553 (d) £1981
10. (a) 350 (b) 21600 (c) 40100 (d) 70000 (e) 790
(f) 200 (g) 530 (h) 9
11. (a) 260 (b) 56924 (c) 6372 (d) 7404
12. (a) 54 (b) 827 (c) 1219 (d) 228
13. (i) 3990 (ii) 4000
14. 1600
15. (a) 2100 (b) 72000

Answers to Chapter 2 (page 32)

1. Check definition
2. (a) 0 (b) 1 (c) 4 (d) 6 (e) 1
(f) 0 (g) 8 (h) 3
3. (a)  (b)  (c) none
4. (a)  (b)  5. 

Answers to Chapter 3 (page 44)

1. 4.56
2. (a) tens (b) units (c) tenths (d) hundredths
3. (a) 5.75 (b) 2.8
4. (a) 9 (b) 7 (c) 31 (d) 59
5. (a) 9.9 (b) 8.75 (c) 4.4 (d) 0.67
6. (a) 8.31 (b) 33.03 (c) 4.5 (d) 5.51 (e) £8.44
(f) £29.57 (g) £1.06 (h) £16.83 (i) £20.83 (j) £17.23
7. £0.19
8. (a) £15.94 (b) £4.06
9. 40.3 m

Answers to Chapter 4 (page 51)

- (a) 0650 (b) 1505 (c) 2340 (d) 1200 (e) 0030 (f) 2250
- (a) 7:05 am (b) 2:50 pm (c) 10:57 am (d) 10:57 pm
- 4 hrs 40 mins
- 4:10 pm
- (a) 30 mins (b) 3 hrs 30 mins (c) 4:50 pm
- 1620
- | | | |
|----|----|---|
| 49 | 15 | 7 |
|----|----|---|

Answers to Chapter 5 (pages 62 - 65)

- (a)

| | | | | |
|----|----|----|----|----|
| Ni | Cr | As | Te | Sp |
| 8 | 6 | 4 | 3 | 3 |

 (b) 24 (c) Nicke
- (a) i) 25 ii) 15 iii) 9 (b) Yes (it will be cancelled)
- (a) beef – 8 salt – 4 cheese – 11 bacon – 10 chicken - 3 (b) 36
- (a)

| | | | | |
|---|----|---|---|---|
| A | S | I | B | F |
| 8 | 11 | 2 | 5 | 4 |

 (b) check bar graph
- (a) Mon 28, Tue 32, Wed 34, Thu 30, Fri 32, Sat 38, Sun 40
(b) 234 (c) i) Sat and Sun ii) Mon, Tue, Thu, Fri
- (a) $\frac{1}{8}$ (b) i) $\frac{2}{8} (\frac{1}{4})$ ii) $\frac{2}{8} (\frac{1}{4})$ iii) $\frac{3}{8}$
(c) i) 5 ii) 10 iii) 10 iv) 15
- (a) i) £15 ii) £12 iii) £34 (b) £56 (c) £26

Answers to Chapter 6 (page 74)

- (a) 29.16 (b) 23.4 (c) 1.86 (d) 1.37
- (a) 51 (b) 743 (c) 79.6 (d) 320
(e) 5634 (f) 574 (g) 0.0481 (h) 0.05
- £3.72
- (a) 16 (b) £119.36
- (a) £33.84 (b) £105.75 (c) £139.59
- (a) £7.32 (b) £2.04 (c) £0.34
- Marshalls's cheaper (£3.43 instead of £3.47 each)

Answers to Chapter 7 (pages 85/86)

1. (a) 6 (b) 4 (c) 7
2. (a) 7 (b) 6 (c) 30 (d) 14 (e) 5 (f) 0
(g) 3 (h) 1.2 (i) 25
3. (a) - (b) x (c) \div (d) + (e) \div (f) x
(g) + (h) - (i) \div
4. (a) 6 (b) 20 (c) 10 (d) 24 (e) 18 (f) 3
5. (a) $38 + * = 70$ (b) $* = 32$
6. (a) i) 21 ii) 6 (b) i) 5 ii) 17
7. (a)

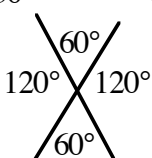
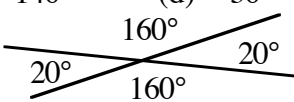
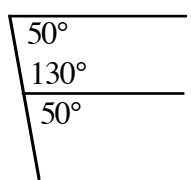
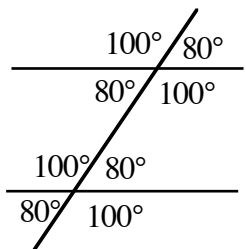
| | | | | | | |
|-------|---|----|----|----|----|----|
| cars | 1 | 2 | 3 | 4 | 5 | 6 |
| tyres | 5 | 10 | 15 | 20 | 25 | 30 |

 (b) IN $\rightarrow \times 5 \rightarrow$ OUT
8. (a) 5 (b) 11
9. (a)

| | | | | | | |
|---------|----|----|----|----|----|-----|
| rubbers | 1 | 2 | 3 | 4 | 5 | 6 |
| weight | 42 | 54 | 66 | 78 | 90 | 102 |

 (b) IN $\rightarrow \times 12 \rightarrow + 30 \rightarrow$ OUT (c) 150 g

Answers to Chapter 8 (pages 103 - 105)

1. (a) right (b) straight (c) acute (d) obtuse (e) reflex (f) acute
(g) obtuse (h) right
2. (a) $54^\circ, 4^\circ, 40^\circ, 67^\circ$ (b) $122^\circ, 179^\circ, 99^\circ, 111^\circ$
(c) 90° (d) 180° (e) $189^\circ, 200^\circ$
3. (a) $\angle ACB$ (b) $\angle PTV$ (c) $\angle GHK$ (d) $\angle TPC$ (e) $\angle FLP$ (f) $\angle JBK$
(g) $\angle ABS$ (h) $\angle OEA$
4. (a) 32° (b) 120° (c) 18° (d) 48° (e) 107° (f) 14°
(g) 57° (h) 138° (i) 120°
- 5./6. check diagrams
7. (a) 30° (b) 63° (c) 140° (d) 30° (e) 100° (f) 125°
8. (a) 
- (b) 
- (c) 
- (d) 
9. (a) 90° (b) 270° (c) 135° (d) 225°
10. (a) NE (b) E (c) 135°
11. (a) 050° (b) 112° (c) 270° (d) 295°
12. (a) 045° (b) 252° (c) 339° (d) 122°
13. check diagrams

Answers to Chapter 9 (page 114)

- (a) £5.75 (b) various
- (a) £9.01 (b) £6.72 (c) £9.15 (d) £1.45 (e) £19.55
(f) £7.97 (g) £18.96 (h) £1.99
- £3.01
- (a) £10.50 (b) £11.85 (c) £1.35
- £6.20
- (a) £7.52 for 8 cheaper (94p each — for 6 is 96p each) (b) £4.96

Answers to Chapter 10 (page 127)

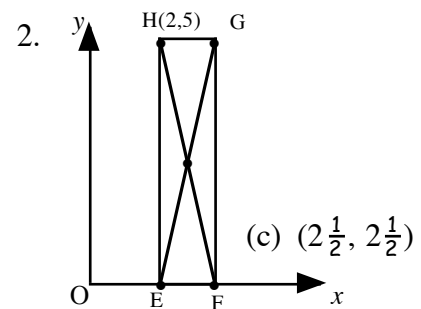
- (a) Pentagon (b) Octagon
- 1 semi-circle, 2 triangles (1 isosceles and 1 equilateral), 1 square, 1 rectangle, 1 kite and 1 hexagon
- (a) 42 cm (b) 66 mm
- (a) obtused angle isosceles Δ
(b) right angle scalene Δ
(c) acute angle isosceles Δ
- check diagram
- 0 cm
- 14 cm

Answers to Chapter 11 (page 135)

- (a) $\frac{7}{12}$ (b) $\frac{2}{5}$ (c) $\frac{3}{8}$
- (a) $\frac{5}{12}$ (b) $\frac{3}{5}$ (c) $\frac{5}{8}$
- (a) $\frac{3}{6}$ (b) $\frac{15}{20}$ (c) $\frac{7}{9}$
- various
- (a) $\frac{1}{2}$ (b) $\frac{1}{3}$ (c) $\frac{2}{3}$
- (a) 11 (b) 7 (c) 7 (d) 6 (e) 6 (f) 3
- (a) £18 (b) £12 (c) £6
- (a) 16 (b) 21 (c) 35

Answers to Chapter 12 (page 142)

- (a) i) D ii) P iii) B iv) J
(b) i) L(5,2) ii) R(0,9) iii) F(10,10) iv) W(8,5)
(c) i) B,S,L,W ii) B(5,8) S(2,5) L(5,2) W(8,5)
(d) i) P(2,0) ii) R(0,9)
(e) i) S,P or B,L ii) S,W or J,F
(f) F(10,10)



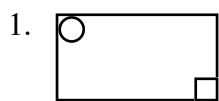
Answers to Chapter 13 (page 147)

1. (a) Green 25%
Red 40%
White 35%
(b) Green 54%
Red 30%
White 16%
(c) Green 72%
Red 5%
White 23%
(d) Green 42% Red 15% Blue 43%
2. (a) $\frac{55}{100}$ (b) $\frac{21}{100}$ (c) $\frac{80}{100}$ (d) $\frac{17}{100}$ (e) $\frac{9}{100}$ (f) $\frac{1}{100}$
3. (a) 0.41 (b) 0.58 (c) 0.11 (d) 0.08 (e) 0.01 (f) 1.0
4. (a) $\frac{18}{100}$ (0.18) (b) $\frac{44}{100}$ (0.44) (c) $\frac{3}{100}$ (0.03)
(d) $\frac{10}{100}$ (0.1) (e) $\frac{25}{100}$ (0.25) (f) $\frac{50}{100}$ (0.5)
5. (a) 22% (b) 67% (c) 71% (d) 6% (e) 7% (f) 50%
6. (a) £40 (b) 7 kg (c) 30.4 cm
7. (a) £1.25 (b) 22 ml

Answers to Chapter 14 (page 163)

1. (a) 5 cm (b) 7.3 cm
2. (a) i) 32 mm (ii) 3.2 cm (iii) 3 cm 2 mm
(b) i) 88 mm (ii) 8.8 cm (iii) 8 cm 8 mm
3. check diagram
4. (a) 400 cm (b) 200 mm (c) 2300 m (d) 7 km (e) 2.5 m
(f) 8 cm (g) 4.5 km (h) 430 cm
5. 160 cm
6. 15.8 cm
7. (a) 24 cm² (b) 13 $\frac{1}{2}$ cm² (c) 25 cm² (d) 14 cm² (e) 16 cm²

Answers to Chapter 15 (page 171)



2. (a) start at 12 go up 6 each time (b) 42, 48, 54
3. (a) start at 80 go down 4 each time (b) 64, 60, 56
4. (a) start at 10 go up 4 (b) 30, 34, 38
(b) start at 1 go up 16 (b) 81, 97, 113
(c) start at 51 go down 5 (b) 31, 26, 21
(d) start at 5.3 go up 1.7 then 0.7 (b) 13.8, 15.5, 17.2

5. M, O, Q, T

6. (a) 11 (b)

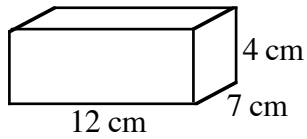
| | | | | | | |
|---------|---|---|---|---|----|----|
| pattern | 1 | 2 | 3 | 4 | 5 | 6 |
| bricks | 3 | 5 | 7 | 9 | 11 | 13 |

- (c) start at 3 and go up by 2 each time or double the number and add 1 or start at 3 and add on 2 each time (d) 21

Answers to Chapter 16 (page 179)

- cone & hemisphere
- (a) 6 (b) 10 (c) 6 faces (1 pentagon & 5 isosceles triangles)
- (a) AD, PS or QR (b) QB, PA and SD
(c) vertical (d) neither (e) 198 cm

4.



- check diagram

Answers to Chapter 17 (page 185)

- bottle, trophy, tent
- 2 weeks
- (a) 5 (b) 50 (c) 5 (d) 15
- 550 ml
- (a) 11 cm^3 (b) 12 cm^3
- (a) (i) 7000 ml (ii) 27000 ml (iii) 3500 ml
(b) (i) 6 l (ii) 80 l (iii) 0.5 l