Practice book answers

Chapter 1

Exercise 1a page 2

1 **b** 3 **c** 7, 10

2 **b** 1, 3, 5, 7

3 **b** 11, 8, 5, 2 **c** -1, -4

Exercise 1c page 3

1 **c** 7, 9, 11, 13 **d** 2, 1

2 Grey: 2, 2, 2 White: 6, 9, 12
Total: 8, 11, 14

Chapter 2

Exercise 2a page 4

2 **b** $\frac{3}{15}$ **d** $\frac{5}{15}$ **e** **i** > **ii** < **iii** < **iv** =

3 **c** **i** 4, 2, 8 **ii** 5, 10

Exercise 2c page 5

1 **b** 4

2 **b** 4 **c** 8

3 20

4 40

Exercise 2e page 6

1 **a** 4, 9, 5·1 **b** 5·1, 5·3 **c** 7·6, 7·7 **d** 3·8, 4.0

3 0·7, 3·5, 9·0, 10·2, 15·3

Exercise 2f page 7

1 **b** 5 **c** 10 **d** 35

2 49

3 **a** 9 **b** 36

Exercise 2h page 8

See students' diagrams

Exercise 2i page 9

1 **b** A12, B4

2 **b** A3 , B15

3 12, 18

4 4, 20

Exercise 2j page 10

1 **a** 400, 100, 500, 4, 1, 100, 25 **b** 20, 5, 500, 125, 625

2 20, 7, 240, 720, 160, 56

Chapter 3

Exercise 3b page 11

1 **a** 60, 60, 7, 7 **b** 36, 72, 8

2 **a** 60, 75, 45 **b** 180 **c** 7.2, 5.2, 6.5 **d** Scalene

Exercise 3d page 12

1 square (4)

2 rhombus (2)

3 parallelogram (2)

4 rectangle (4)

5 trapezium (1)

6 isosceles trapezium (2)

7 kite (0)

8 arrowhead (2)

Exercise 3e page 13

1 **a** 75, 65 100, 120 **b** 360 **c** 360

2 **a** 90 **b** 70 **c** 70 **d** 140

Exercise 3f page 14

1 **a** CD **b** GH

Exercise 3h page 15

1 **a** 35 **b** 75 **c** 58

2 **a** 55 **b** 125

Chapter 4

Exercise 4a page 16

1 **a** $n + 9$ **b** $2n$ **c** $3n + 3$

3 **a** $3x$ **b** x, x, y

Exercise 4b page 17

1 4.3 kg

2 16 kg, 16 kg, 16 kg

3 **a** 4.2 kg, 2.1 kg, 2.1 kg

Exercise 4c page 18

1 **a** 35 **b** 4

2 **a** +6 **b** ×3

3 **a** 5 **b** 21

4 **a** 21 **b** $7x = 56$ **c** $\frac{j}{9} = 9$

5 **a** 13 **b** 64

Exercise 4d page 19

1 **a** 31 **b** 87

2 **a** × 2, −6, 22 **b** ×4, +7, 39

3 **a** 5 **b** 50

4 21

Exercise 4e page 20

See students' drawings

Exercise 4f page 21

1 **b** **ii** $13 + s = 36$ **iii** 23

c **ii** $11 + s = 52$ **iii** 41

Exercise ML1 page 22

Greenhouse gases – carbon dioxide
Students' own responses

Chapter 5

Exercise 5c page 23

2 **b** apple **c** cherry, mango, peach

Exercise 5d page 24

See students' diagrams

Exercise 5e page 25

1 **a** 5 **b** 7, 2

2 **a** 12 **b** 11

3 **a** 6 **b** 6.5

4 **a** 2 **b** 3 **c** 3.5

Exercise 5f page 26

1 **a** 60 **b** 70 **c** Monday **d** Thursday
e Sunday

2 **a** 20 **b** 30 **c** 1 **d** 10

Chapter 6

Exercise 6c page 27

1 **a** 6, 8, 4, 7, 6, 6, 6, 8 **b** A, E, F, G

2 No – volume of box is 1800 cm^3, but the bricks will take up 2000 cm^3

3 **a** 30 **b** 34

Exercise 6d page 28

1 **a** 6 **b** 20 **c** 40

2 **a** 4, 2 **b** 10, 5 **c** 20, 10 **d** 18, 9

3 30

Exercise 6e page 29

1 **a** 12 **b** 10 **c** 12 **d** 14

2 **a** 18 **b** 27

3 **a** 12 **b** 16 **c** 40

Chapter 7

Exercise 7a page 30

1 **a** 790 **b** 28 **c** 10·3

2 **a** 290 **b** 13 **c** 8·4
d 56 **e** 62

3 **a** 18·1 **c** 181

Exercise 7b page 31

1 **a** 4 cm **b** 6 cm **c** 2 cm **d** 5 cm

2 **a** 11 **b** 7 **c** 7

Exercise 7e page 32

1 **a** 2 **b** 6 **c** 9 **d** 3
e 8 **f** 8 **g** 8 **h** 7

2 **b** 300 + 50 **c** 500 + 6

3 **b** 584 **c** 470 **d** 539
e 498 **f** 744

4 **b** 672 **c** 966 **d** 1007

Exercise 7f page 33

1 **b** 93 **c** 6 **d** 281
e 403 **f** 25.6

2 32, 9, 219, 68, 0.2

3 **a** 24 **b** 35, 105 **c** 56, 168 **d** 121, 605

Exercise 7h page 34

1 **b** 13.7 **c** 12.08 **d** 5.09
e 0.25 **f** 0.03

2 **a** 74.4 km, 148.8 km, 20.5 km, 71.75 km
b B to D

Exercise ML2 page 35

1 **a** 98 **b** 286 **c** 676

2 **a** 456 **b** 1508 **c** 855

Chapter 8

Exercise 8b page 36

1 **a** -4, -3, -2, -1, 0, 1

2 **a** 1, 2, 3, 4, 5, 6, 7

Exercise 8c page 37

1 **a** 10 **b** 13 **c** 23 **d** 5

2 **a** 3, 5, 7, 9, 11, 13
b (0, 3), (1, 5), (2, 7), (3, 9), (4, 11), (5, 13)

Exercise 8g page 38

2 **f** 1.5 km/h **g** 10.5 km

Chapter 9

Exercise 9a page 39

See students' drawings

Exercise 9b page 40

1 **a** C **b** B **c** A
d D **e** A

2 **a** i **b** iii **c** ii

Exercise 9c page 41

1 **a** 10 **b** $\frac{8}{10}$ **c** $\frac{5}{10}$ **d** 90

2 0, 25, 50, 75, 100

Exercise 9c² page 42

1 **b** 9 **c** $\frac{5}{9}$ **d** $\frac{4}{9}$

2 **b** $\frac{3}{9}$

Exercise 9d page 43

1 **b** $\frac{1}{2}$ **c** $\frac{3}{4}$ **d** $\frac{2}{3}$ **e** $\frac{1}{5}$

2 **a** $\frac{5}{10}$, 50% **b** $\frac{7}{10}$, 70% **c** $\frac{3}{10}$, 30% **d** $\frac{0}{10}$, 0%

Chapter 10

Exercise 10a page 44

See students' drawings

Exercise 10b page 45

See students' drawings

Exercise 10c page 46

See students' drawings

Exercise 10e page 47

See students' drawings

Exercise 10f page 48

See students' drawings

Chapter 11

Exercise 11a page 49

2 **a** 3, 6, 9, 12, 15, 18, 21 **b** 5, 10, 15, 20, 25, 30, 35
c 15

3 **a** 4, 8, 12, 16, 20, 24, 28, 32 **b** 3, 6, 9, 12, 15, 18, 21, 24
c 12, 24 **d** 12

Exercise 11b page 50

1 **b** 2

2 **b** 5, 2, 2 **c** 5, 3, 2 **d** 2, 2, 2, 3
e 5, 5, 2 **f** 2, 2, 2, 2, 2

Exercise 11c page 51

2 **a** 1 **b** 4 **c** 10
d 5 **e** 2

3 **b** 4 **c** 9 **d** 1
e 3 **f** 6

Exercise 11f page 52

1 **a** 21 **b** 66 **c** 77 **d** 20
e 32 **f** 100

2 **a** (2×7) **b** (3×5) **c** $(3 - 2)$ **d** $(8 + 4)$
e $(10 \div 2)$ **f** $(2 - 1)$ **g** $(20 - 4)$ **h** $(4 - 2)$
i $(60 + 15)$

3 **a** $(7 - 2)$ **b** $(4 + 4)$ **c** $(8 \div 2)$
d $(6 - 3)$ **e** $(10 - 7)$ **f** $(6 - 7)$

4 **a** 6, 6 **b** 8, 4 **c** 2, 10

Exercise 11g page 53

1 13, 2, 2, 18, 8, 7

2 **a** 20 **b** 48 **c** 20 **d** 98

3 40

Exercise ML3 page 54

3 **a** Yes

Chapter 12

Exercise 12a page 55

See students' graphs

Exercise 12c page 56

1 **a** 1 **b** 0 **c** 48
d 40 **e** 6

2 **b** 41 **c** 5, 12, 22, 36 (or no mode)

Exercise 12c² page 57

1 115

2 7, 7, 10, 15, 20, 11

Exercise 12d page 58

1 **c** 41–50

Chapter 13

Exercise 13a page 59

See students' drawings

Exercise 13c page 60

See students' drawings

Exercise 13d page 61

1 **a** 18 **b** 24 **c** 70

2 **a** 8 **b** 30 **c** 80 **d** 72

Exercise 13e page 62

1 52

2 **a** 15 **b** 6 **c** 10 **d** 62

Exercise ML4 page 63

1 1

2 1

3 Kart 1 consistent leader

4 **a** 1 minute **b** 2 minutes **c** 30 km

Chapter 14

Exercise 14b page 64

1 18p

2 1p

3 6

4 2

5 6

6 **a** 12 **b** 24

Chapter 15

Exercise 15a page 65

1 **a** 12 **b** 27 **c** 17 **d** 32

2 **c** 17 **d** 32

Exercise 15b page 66

2 Number of supports 1 more than number of panels

4 Number of chains 2 less than double the number of posts

Exercise 15c page 67

1 **b**

2 $p + 1 = s$

3 **c**

4 $2p - 2 = c$

Exercise 15d page 68

1 **a** 102 **b** 127 **c** 502