Step 1 Answers

Chapter 1 Number

1.1 Using place value to make approximations

1 a 60 **b** 70 **c** 90 **d** 20 **e** 70 **f** 10 **g** 30 **h** 30 **i**30 **j** 80 **k** 70 **l** 30

2 a 700 **b** 600 **c** 200 **d** 800 **e** 900 **f** 200 **g** 100 **h** 200 **i** 600 **j** 300 **k** 700 **l** 400

3 a 3000 **b** 1000 **c** 8000 **d** 9000 **e** 6000 **f** 7000 **g** 9000 **h** 6000 **i** 7000 **j** 3000 **k** 5000 **l** 1000

4 To the nearest £10: 180, 720, 530, 890, 220, 670. To the nearest £100: 200, 700, 500, 900, 200, 700

1.2 The connection between division and multiplication

1 8, 7

2 12, 6

3 75 ÷ 5 = 15 and. 75 ÷ 15 = 5

4 7, 13, 16, 7

5 50, 20, 10, 25, 2, 5

1.3 Add and subtract two-digit numbers

1 a 68 **b** 92 **c** 94 **d** 130 **e** 81 **f** 88 **g** 113 **h** 121 **i** 117

2 a 26 **b** 22 **c** 30 **d** 22 **e** 13 **f** 24 **g** 31 h 55 **i** 75

3 a 104 **b** 36 **c** 89 **d** 43 **e** 85 **f** 7 **g** 88 **h** 46

1.4 Addition and subtraction using written methods

1 a 249 **b** 473 **c** 739 **d** 331 **e** 574 **f** 921 **g** 408 **h** 542 **i** 981

2 a 144 **b** 531 **c** 684 **d** 117 **e** 213 **f** 125 **g** 651 **h** 357 **i** 146

1.5 Multiplication and division

1 a 74 **b** 95 **c** 69 **d** 186 **e** 296 **f** 275 **g** 232 **h** 256 **i** 432

2 a 24 **b** 15 r 1 **c** 15 **d** 12 r 3 **e** 18 **f** 12 r 2 **g** 23 r 3 **h** 15 **i** 43 r 1

1.6 Using known addition and subtraction facts

1 a 19 **b** 27 **c** 19 **d** 74 **e** 85 **f** 69 **g** 229 **h** 364 **i** 270

2 a 12 **b** 12 **c** 4 **d** 60 **e** 43 **f** 32 **g** 52 **h** 76 **i** 74

3 a 31 **b** 41 **c** 20 **d** 30 **e** 24 **f** 44

4 a 11 **b** 9 **c** 24 **d** 27 **e** 14 **f** 45

5 a 40 and 60 **b** 60 and 140 or 40 and 160 **c** 120 and 160 or 50 and 90 **d** 70 and 160 or 50 and 140

1.7 Whole number problems

1 a 7 rem 1 **b** 6 rem 1 **c** 7 rem 1 **d** 6 rem 2

2 5 with 3 left over

3 40

4 8

5 a £103 **b** £43 **c** 9 **d** £3550

6 a 180 **b** 7 with 1 left over **c** 17

7 21

8 7

1.8 Place value

1 a 27 **b** 34 **c** 152 **d** 308 **e** 740 **f** 1203

2 a thirty-five **b** one hundred and seventy-nine **c** two hundred and four **d** nine hundred and ninety **e** one thousand six hundred and seventy-eight

3 a 1 **b** 0 **c** 7

4 a £2500 **b** £1199 **c** £2099

5 Car **b**

1.9 Negative numbers

1 a –3, –2, 0, 2, 3, 7 **b** –7, –5, 2, 4, 6 **c** –5, –3, 0, 4, 6, 9 **d** –3, –2, –1, 4, 6, 9

2 a 9°C **b** –2°C **c** 2°C **d** 4°C **e** 0°C **f** 5°C **g** –10°C **h** 9°C

4 25, 20, 10, 0, –5, –10, –20, –25

5 a –9, –6, –2, 3, 7 **b** –10, –8, –6, –4, –1, 0, 6, 7 **c** –18, –14, –6, 0, 8, 16 **d** –90, –60, –50, –10, 40, 70

1.10 Recognising fractions

1 a $\frac{11}{44}$ **b** $\frac{11}{22}$ **c** $\frac{33}{44}$ **d** $\frac{77}{88}$ **e** $\frac{11}{22}$ **f** $\frac{11}{44}$ **g** $\frac{55}{66}$ **h** $\frac{11}{33}$ **i** $\frac{1}{2}$

2 a 2 coloured **b** 6 coloured **c** 2 coloured **d** 6 coloured **e** 6 coloured **f** 3 coloured

3 a Colour 2 parts **b** Colour 1 part **c** Colour 3 parts **d** Colour 3 parts **e** Colour 4 parts

4 a Colour 1 part **b** Colour 2 parts **c** Colour 3 parts

5 a Colour 1 part **b** Colour 2 parts**c** Colour 3 parts

6 a Colour 1 part **b** Colour 2 parts**c** Colour 3 parts

1.11 Using decimals in context

1 a & **b** £7.02, £7.20 – largest, £6.67 – smallest, £6.94

2 a £2.50 **b** £4.08 **c** £12.87 **d** £40.00

3 a 700p **b** 1250p **c** 80p **d** 5p

4 a 2.3 cm **b** 5.1 cm **c** 6 cm or 6.0 cm **d** 0.8 cm

5 a 62 mm **b** 125 mm **c** 250 mm **d** 2 mm

6 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9

7 b 5.6, 5.7, 5.8, 5.9, 6.0, 6.1, 6.2, 6.3, 6.4 **c** 3.3, 3.4, 3.5, 3.6, 3.7, 3.8, 3.9, 4.0, 4.1
d 29.7, 29.8, 29.9, 30.0, 30.1, 30.2, 30.3, 30.4, 30.5

8 0.03, 0.04, 0.05, 0.06, 0.07, 0.08, 0.09

9 b 5.51, 5.52, 5.53, 5.54, 5.55, 5.56, 5.57, 5.58, 5.59 **c** 31.41, 31.42, 31.43, 31.44, 31.45, 31.46, 31.47, 31.48, 31.49

Chapter 2 Algebra

2.1 Sequences of numbers

1 a 30, 32 **b** 27, 32 **c** 18, 15 **d** 55, 45 **e** 16, 32

2 a 11, 13 **b** 50, 52 **c** 50, 55 **d** 25, 31 **e** 28, 25
f 26, 20 **g** 54, 65 **h** 104, 100

3 a 20 and 36 **b** 32, 37 and 57 **c** 90, 84 and 75 **d** 38, 34, 30 and 14

2.2 The equals sign

1 a $9 = 3 + 6$ **b** $12 + 2 = 14$ **c** $6 + 1 = 7$ **d** $11 = 3 + 8$

2 a $9 – 3 = 6$ **b** $12 = 14 – 2$ **c** $6 = 7 – 1$ **d** $11 – 3 = 8$

3 a $12 + 3 = 18 – 3$ **b** $3 + 8 – 5 = 6$ **c** $10 = 6 + 8 – 4$

4 a $3 + 5 = 2 \times 4$ **b** $3 \times 5 = 8 + 7$ **c** $6 + 3 = 3 \times 3$

5 a $24 = 4 \times 6$ **b** $24 \div 4 = 6$ **c** $19 = 12 + 7$ **d** $19 – 12 = 7$

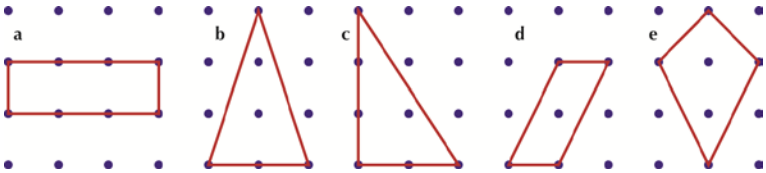
6 a $12 = 3 + 4 + 5$ **b** $4 \times 3 = 2 \times 6$ **c** $5 – 4 = 8 – 7$ **d** $2 \times 5 = 6 + 4$ **e** $5 + 1 = 12 \div 2$

f $50 – 8 = 25 + 17$

Chapter 3 Geometry and measures

3.1 Classify 2D and 3D shapes

1 These are possible answers. There are others.



2 **a**, **b** and **e** have a line of symmetry; **d** does not; **c** may, depending on the drawing.

3

4

5

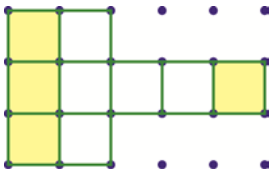
6 **a** Cube **b** Cuboid **c** Pyramid **d** Tetrahedron

7 **a** 6 faces, 8 vertices, 12 edges **b** 5 faces, 5 vertices, 8 edges **c** 4 faces, 4 vertices, 6 edges

3.2 Nets of 3D shapes

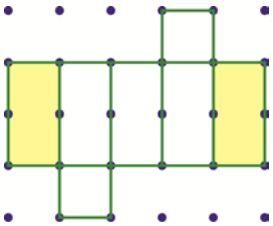
1 Net **c**

2



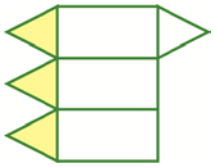
Add <u>one</u> of the four shaded faces.

3



Add either of the shaded rectangles.

4



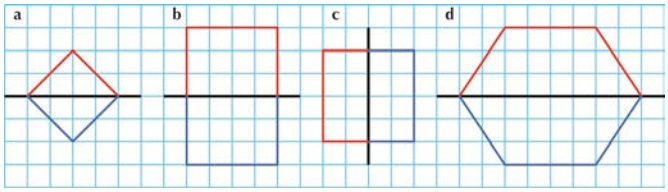
Add <u>one</u> of the three shaded triangles.

5 a Pyramid **b** Isosceles

6 B

3.3 Working with 2D shapes

1



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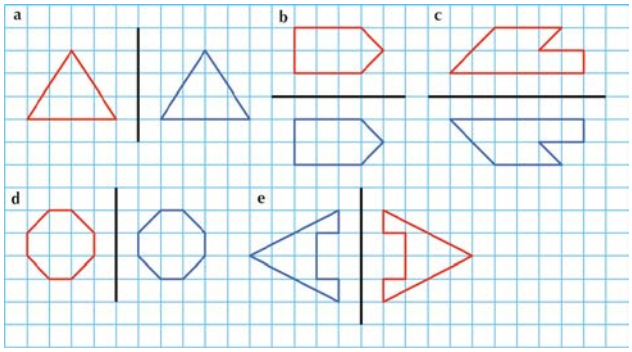

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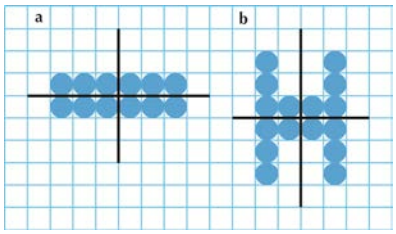
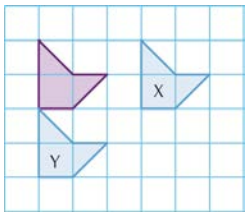


3.4 Position and movement

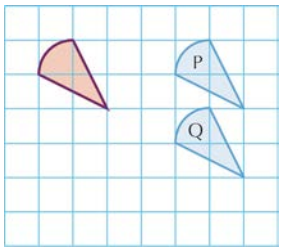
1 a 3 right **b** 2 up **c** 3 left

2 a and **b**



c 3 left **d** 2 up

3 a and **b**



c 4 left and 2 up

3.5 Measuring

1 a kg **b** mm **c** litres **d** km **e** g **f** m

2 a mm **b** m **c** kg **d** g

3 a 70 **b** 40 **c** 110

4 a 7 **b** 4 **c** 11

5 a 200 **b** 2000

6 2

7 a True **b** True

8 a False **b** True

9 5000

3.6 Time

1 a 10.30 **b** 5.15 **c** 2.45

2 b 21:45 **c** 22:35 **d** 09:30 **e** 23:52 **f** 14:56

3 a 7 pm **b** 2.54 pm **c** 4.45 pm **d** 3.25 pm **e** 9.45 am **f** 1.56 pm

4

Time	12-hour clock	24-hour clock
Half past 6 in the morning	6.30 am	06:30
2 in the afternoon	**2 pm**	14:00
Half past 8 in the evening	8.30 pm	**20:30**
10 o'clock in the evening	**10 pm**	**22:00**
Quarter past 7 in the morning	**7.15 am**	07:15
2 in the morning	2.00 am	**02:00**
Half past 11 at night	**11.30 pm**	23:30
Half past midnight	**12.30 am**	**00:30**
Quarter to 4 in the afternoon	3.45 pm	**15:45**
10 to 3 in the morning	**2.50 am**	02:50

5 60, 120, 180, 240, 300, 360

Chapter 4 Statistics

4.1 Gathering information

1 6, 10, 4, 3, 1

2 28, 13, 7, 15, 11

3 a Soap operas **b** 28

4 a News **b** 7

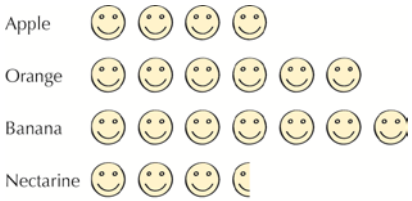
5 11

6 13

7 17

4.2 Statistical diagrams

1



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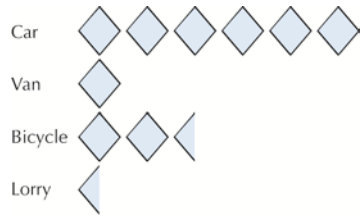
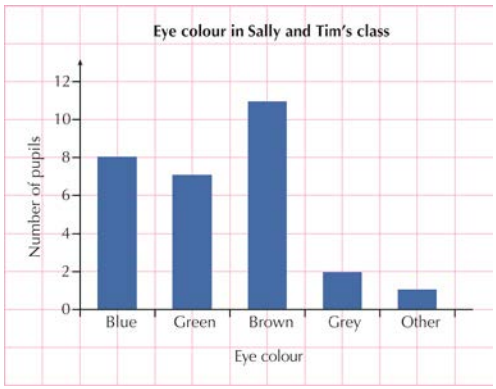
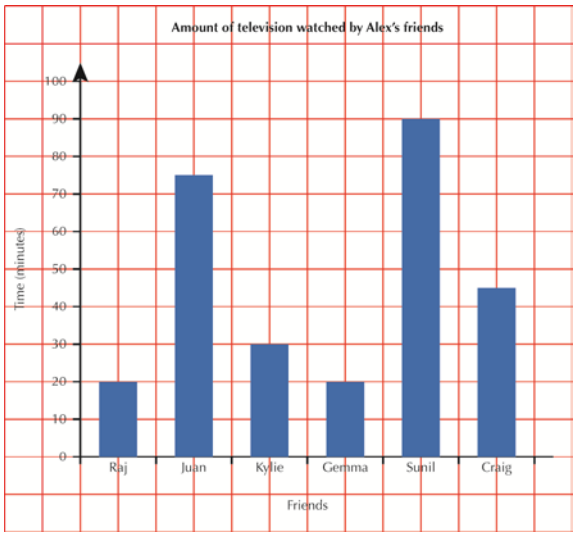


3 a 8, 7, 11, 2, 1



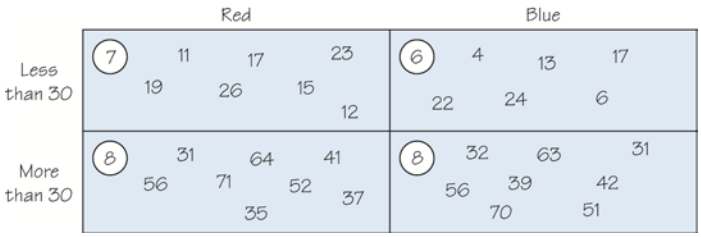
4



c Sunil **d** Raj and Gemma

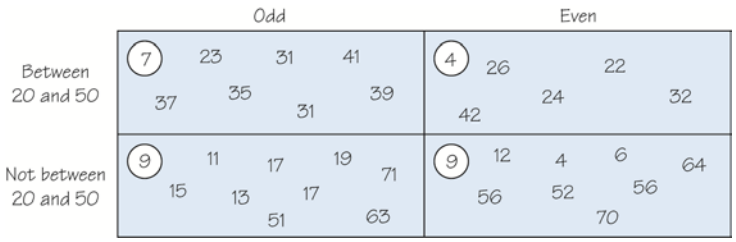
4.3 Sorting and classifying information

1a and **b**



c 16 **d** 6 **e** 15

2a and **b**



c 16 **d** 12 **e** 5 **f** 9

3 a 9 **b** 8 **c** 7 **d** 19

4.4 Interpreting information

1 a 8 **b** Spain **c** 7 **d** 47

2 a 150 **b** 208 **c** 398 **d** Cardiff, York **e** Edinburgh, York **f** London, Edinburgh

3 a 5 **b** Redbay **c** 5 **d** 24

4 a 0908 **b** 0838 **c** 0931 **d** 0947 **e** 7 **f** 39

5 a 40 **b** 8 **c** 8 **d** 9 **e** Sport **f** Reading