

Answers

Pages 12-13 — Section One

- 1) a) Six hundred
b) Three million, eight hundred and seventy two thousand, six hundred and fifty one
- 2) £600 281
- 3) 6 812 993, 6 782 149, 696 999, 582 107
Descending order means from biggest to smallest.
- 4) 3425 is bigger than 3347, so Angelina has the most songs.
- 5) a) Floor -4
b) Floor -6
- 6) There are 6 places from -6 to 0, then 5 places from 0 to 5.
So $6 + 5 = 11$ °C
- 7) $-7 + 8 = 1$, so Colin is not correct.
Don't forget to show why he isn't correct — you can't just say 'he's not correct'.
- 8) a) 1066
c) MMIII = 2003
Roswell was founded in 2003, which is after 1066, so it was founded **after** Buckhead.
- 9) a) Six hundredths
b) Two thousandths
- 10) 8.104, 8.32, 8.4, 12.25, 12.3
The first thing to do when ordering decimals is to line all the numbers up and give all them the same number of decimal places by adding in zeros.
- 11) 68.35 is bigger than 68.306, so Lee cycled the furthest.
- 12) a) 8 523 400
b) 8 520 000
c) 9 000 000
- 13) 2 kg
- 14) 7.2 m

Pages 32-33 — Section Two

- 1) a)
$$\begin{array}{r} 8475 \\ + 4123 \\ \hline 12598 \end{array}$$
- b)
$$\begin{array}{r} 51432 \\ + 7384 \\ \hline 58816 \end{array}$$
- c)
$$\begin{array}{r} 67854 \\ - 4982 \\ \hline 63772 \end{array}$$
- 2)
$$\begin{array}{r} 65.84 \\ + 4.23 \\ \hline 18.49 \end{array}$$

So Rachel spends **£88.56** in total.
- 3)
$$\begin{array}{r} 264.93 \\ - 7.85 \\ \hline 267.08 \end{array}$$

Emily can run 800 m in **267.08 seconds**.
This is just a subtraction question in disguise.
Don't be put off by all the words in the question — the maths is just the same.
- 4) a)
$$\begin{array}{r} 614 \\ \times 23 \\ \hline 1842 \\ 12280 \\ \hline 14122 \end{array}$$
- b)
$$\begin{array}{r} 2873 \\ \times 15 \\ \hline 14365 \\ 28730 \\ \hline 43095 \end{array}$$

Answers

Pages 48-49 — Section Three

- 5)
$$\begin{array}{r} 4302 \\ \times 7 \\ \hline 30114 \\ \hline 30114 \end{array} = 30114 \text{ g}$$
- 6)
$$\begin{array}{r} 114 \\ 12 \overline{) 13164} \\ \underline{12} \\ 116 \\ \underline{108} \\ 84 \\ \underline{84} \\ 0 \end{array} = 114 \text{ cable cars}$$
- 7) a)
$$\begin{array}{r} 377r6 \\ 7 \overline{) 276545} \\ \underline{21} \\ 66 \\ \underline{56} \\ 104 \\ \underline{98} \\ 64 \\ \underline{63} \\ 14 \\ \underline{14} \\ 0 \end{array} = 377 \text{ r } 6$$

b) $377\frac{6}{7}$
When you write your answer as a mixed number, the remainder is the top number of the fraction and the number you're dividing by is the bottom number.
- 8) a) $35 \times 100 = 3500$
b) $0.24 \times 10 = 2.4$
c) $6.74 \times 1000 = 6740$
d) $59.82 \times 1000 = 59820$
- 9) $6724 \div 100 = 67.24 \text{ km}$
- 10) a) $16 - 4 \times 2 + 3 = 16 - 8 + 3 = 11$
b) $8 \times (6 - 1) + 12 = 8 \times 5 + 12 = 40 + 12 = 52$
Remember the BODMAS rules for these questions.
- 11) $(12 + 6) \div 3$
- 12) a) E.g. $6 \times 8 = 48$
b) E.g. $200 \div (4 \times 5) = 200 \div 20 = 10$
You might end up with different answers if you round to different numbers — but always make sure you round to a sensible number.
- 13) a) 4, 8, 12, 16, 20
b) 12, 24, 36, 48, 60
- 14) a) Factors of 30: 1 and 30, 2 and 15, 3 and 10, 5 and 6
b) Factors of 49: 1 and 49, 7
- 15) a) 19, 23
b) 59, 61, 67
- 16) $18 = 2 \times 3 \times 3$
- 17) $3^2 = 3 \times 3 = 9$
 $2^3 = 2 \times 2 \times 2 = 8$
 $9 + 8 = 17$
So Gunther is thinking of 9 and 8.
- 1) a) There are $3 \times 7 = 21$ sevenths in 3, so there are $21 + 3 = 24$ sevenths in total.
So $3\frac{3}{7} = \frac{24}{7}$
- b) $14 \div 5 = 2$ remainder 4, so $\frac{14}{5} = 2\frac{4}{5}$
- 2) Total number of pieces eaten = $6 + 9 + 8 = 23$.
The denominator will be 10, so they have eaten $\frac{23}{10}$ bars.
 $23 \div 10 = 2$ remainder 3, so $\frac{23}{10} = 2\frac{3}{10}$.
They have eaten $2\frac{3}{10}$ chocolate bars.
- 3) $\frac{5}{6} = \frac{10}{12}$
- 4) 2, 9 and 6 all have 18 as a multiple, so use that as a common denominator:
 $\frac{1}{2} = \frac{9}{18}$, $\frac{4}{9} = \frac{8}{18}$, $\frac{5}{6} = \frac{15}{18}$
In order from largest to smallest: $\frac{15}{18}$, $\frac{9}{18}$, $\frac{8}{18}$
So the order is: $\frac{5}{6}$, $\frac{1}{2}$, $\frac{4}{9}$
- 5) a) $21 \div 3 = 7$
 $7 \times 2 = 14$
So $\frac{2}{3} \times 21 = 14$
- b) $2 \times 25 = 50$
 $25 \div 5 = 5$, $5 \times 3 = 15$
 $50 + 15 = 65$
So $2\frac{3}{5} \times 25 = 65$
- 6) a) $\frac{1}{3} \times \frac{1}{4} = \frac{1 \times 1}{3 \times 4} = \frac{1}{12}$
b) $\frac{3}{8} \times \frac{7}{10} = \frac{3 \times 7}{8 \times 10} = \frac{21}{80}$
- 7) a) $\frac{8}{15} + \frac{11}{15} + \frac{4}{15} = \frac{8+11+4}{15} = \frac{23}{15} = 1\frac{8}{15}$
b) There are 10 tenths in a whole, so there are $10 + 9 = 19$ tenths in $1\frac{9}{10}$.
 $1\frac{9}{10} + \frac{3}{10} - \frac{1}{10} = \frac{19+3-1}{10} = \frac{21}{10} = 2\frac{1}{10}$

Answers

- 8) a) 8 and 12 both have 24 as a multiple, so use that as the common denominator.
 $\frac{7}{8} = \frac{21}{24}$ and $\frac{5}{12} = \frac{10}{24}$
 So $\frac{7}{8} - \frac{5}{12} = \frac{21}{24} - \frac{10}{24} = \frac{21-10}{24} = \frac{11}{24}$
- b) 3 and 7 both have 21 as a multiple, so use that as the common denominator.
 $\frac{1}{3} = \frac{7}{21}$ and $\frac{2}{7} = \frac{6}{21}$
 So $\frac{1}{3} + \frac{2}{7} = \frac{7}{21} + \frac{6}{21} = \frac{7+6}{21} = \frac{13}{21}$
- 9) The calculation you need to do is $\frac{4}{5} - \frac{1}{4}$
 5 and 4 both have 20 as a multiple, so use that as the common denominator.
 $\frac{4}{5} = \frac{16}{20}$ and $\frac{1}{4} = \frac{5}{20}$
 So $\frac{4}{5} - \frac{1}{4} = \frac{16}{20} - \frac{5}{20} = \frac{16-5}{20} = \frac{11}{20}$
- 10) a) $\frac{1}{8} \div 4 = \frac{1}{8 \times 4} = \frac{1}{32}$
 b) $\frac{2}{5} \div 7 = \frac{2}{5 \times 7} = \frac{2}{35}$
- 11) The calculation you need to do is $\frac{1}{5} \div 3$:
 $\frac{1}{5} \div 3 = \frac{1}{5 \times 3} = \frac{1}{15}$
- 12) a) $0.219 = \frac{219}{1000}$
 b) $0.49 = \frac{49}{100}$
 c) $\frac{16}{25} = \frac{64}{100} = 0.64$
 d) $\frac{3}{500} = \frac{6}{1000} = 0.006$
- 13) a) $0.39 \times 100 = 39\%$
 b) $13 \div 100 = 0.13$
- 14) $\frac{11}{50} = \frac{22}{100} = 22\%$ of his T-shirts are white.
- 15) $100\% - 60\% = 40\%$ of Scott's friends are not at his birthday party. $40\% = 0.4 = \frac{2}{5}$

Pages 60-61 — Section Four

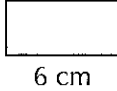
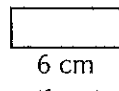
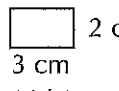
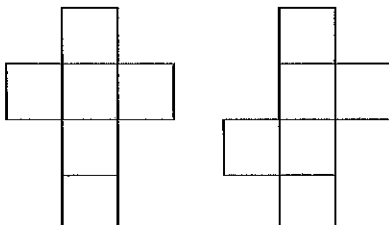
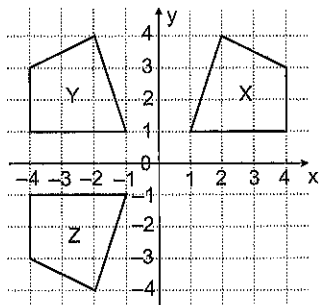
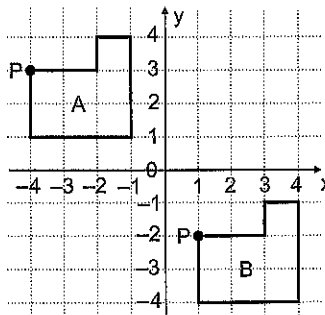
- 1) $£56 \div 8 = £7$
- 2) 6 bought tickets: 1 free ticket
 30 bought tickets = 5×6 bought tickets
 So she gets $5 \times 1 = 5$ free tickets
- 3) 15 people = 3×5 people
 So he needs: $3 \times 15 = 45$ sandwiches
 and $3 \times 10 = 30$ sausage rolls
- 4) Number of shares = $6 + 5 = 11$
 One share = $66 \div 11 = £6$
 Monisha gets $6 \times 6 = £36$
 Vicky gets $5 \times 6 = £30$
- 5) a) Rahul's items: Sarah's items = **2:3**
 b) $18 = 2 \times 9$, so Sarah sold $3 \times 9 = 27$ items
- 6) a) $£160 \div 10 = £16$
 b) 10% of 120 kg = $120 \div 10 = 12$ kg
 5% of 120 kg = $12 \div 2 = 6$ kg
 15% of 120 kg = $12 + 6 = 18$ kg
 c) $70 \text{ cm} \div 10 = 7 \text{ cm}$
 $7 \text{ cm} \times 3 = 21 \text{ cm}$
- 7) The club has $18 + 7 = 25$ members.
 $\frac{7}{25} = \frac{7 \times 4}{25 \times 4} = \frac{28}{100}$
28%
- 8) She got $20 - 4 = 16$ questions right.
 $\frac{16}{20} = \frac{16 \times 5}{20 \times 5} = \frac{80}{100}$
80%
- 9) $6 \times 8 \times \frac{1}{2} = 48 \times \frac{1}{2} = 24 \text{ cm}^2$
- 10) **Number of bananas = 6 × number of apples**
Total booking fee = £15 × number of people
- 11) a) $\star = 104 - 7 = 97$ b) $\square = 37 + 15 = 52$
 c) $\bigcirc = 96 \div 8 = 12$ d) $\triangle = 7 \times 12 = 84$
- 12) R = Ryan's money
 $£48 = 8 \times R$
 $R = £48 \div 8 = £6$
- 13) E.g.
 If **M = 1**: $3M = 3$, so $3 + N = 17$ and **N = 14**
 If **M = 2**: $3M = 6$, so $6 + N = 17$ and **N = 11**
 If **M = 3**: $3M = 9$, so $9 + N = 17$ and **N = 8**
 If **M = 4**: $3M = 12$, so $12 + N = 17$ and **N = 5**

Answers

Pages 74-75 — Section Five

- 1) a) $3 \times 16 = 48$ ounces
 b) $64 \div 16 = 4$ lbs
- 2) a) $5 \text{ cm} \times 3 = 15 \text{ cm}$, so 2 inches $\times 3 = 6$ inches
 b) 2 inches $\times 10 = 20$ inches,
 so $5 \text{ cm} \times 10 = 50 \text{ cm}$
- 3) $24 \times 3 = 72$, so $84 \div 24 = 3 \text{ r } 12$
 So it takes her **3 days and 12 hours**.
- 4) 3 litres = $3 \times 1000 = 3000 \text{ ml}$
 $3000 \div 500 = 6$ bottles
- 5) $£3.85 = 3.85 \times 100 = 385\text{p}$
 $385\text{p} + 79\text{p} = 464\text{p}$
 $464 \div 100 = £4.64$
 You could also work out the answer to this question by converting 79p into pounds (£0.79), and then adding that to £3.85.
- 6) $1.37 \text{ m} = 1.37 \times 100 = 137 \text{ cm}$
 $42 \text{ mm} = 42 \div 10 = 4.2 \text{ cm}$
 $137 + 4.2 = 141.2 \text{ cm}$
- 7) $20 + 8 + (20 - 16 - 2) + 9 + 16 + 9 + 2 + 8 = 74 \text{ cm}$
 Use the lengths of the opposite sides to find the missing sides.
- 8) $18 \div 6 = 3 \text{ m}$
- 9) **11.5 m²**
- 10) a) $9 \times 9 = 81 \text{ cm}^2$
 b) $7 \times 6 = 42 \text{ m}^2$
 c) $\frac{1}{2} \times 3 \times 8 = 12 \text{ mm}^2$
 d) $4 \times 9 = 36 \text{ cm}^2$
- 11) Area of parallelogram: $10 \times 8 = 80 \text{ mm}^2$
 Area of one triangle: $\frac{1}{2} \times 5 \times 8 = 20 \text{ mm}^2$
 Total area: $80 + 20 + 20 = 120 \text{ mm}^2$
- 12) $3 \times 4 \times 6 = 72 \text{ cm}^3$
- 13) $5 \times 2 \times \text{height} = 100$
 height = $100 \div 10 = 10 \text{ cm}$

Pages 86-87 — Section Six

- 1) a) **Obtuse** c) **Right angle**
 b) **Acute** d) **Reflex**
- 2) $x = 360^\circ - 132^\circ - 110^\circ - 48^\circ = 70^\circ$
- 3) a) $180^\circ - 33^\circ = 147^\circ$
 b) $180^\circ - 70^\circ = 110^\circ$
- 4) a) **4 cm** c) **110°**
 b) **6 cm** d) **70°**
- 5) The triangle has two equal length sides and two equal angles. **It is an isosceles triangle.**
- 6) **Circle A**
- 7) Plan:  3 cm
 Elevation:  2 cm  2 cm
 6 cm 6 cm 3 cm (side) (side)
- 8) E.g. 
- 9) **A (-4, 3)** **B (3, 2)**
C (1, -2) **D (-3, -4)**
- 10) 
- 11) a) 
 b) **(1, -2)**

Answers

Pages 92-93 — Section Seven

1) a)

	Oliver	Ryan	Katie
Spider	12	26	$26 - 3 = 23$
Ant	16	12	12
Earwig	3	15	$3 \times 4 = 12$

b) $3 + 15 + 12 = 30$

c) Ryan caught $26 + 12 + 15 = 53$ minibeasts.
 Oliver caught $12 + 16 + 3 = 31$ minibeasts.
 So Ryan caught $53 - 31 = 22$ more than Oliver.

2) a) This is easiest to work out using the second train. It leaves Owl Moor at 12:00 and arrives at Crow Crossing at 12:38.

So the journey takes **38 minutes**.

b) The next train from Vulture Pass is at 14:30. It gets to Rook's End at **15:37**.

c) The first train is the only one to get to Sparrow Town before noon. Brian must get the train from Crow Crossing at **11:18**.

3) a) **14 °C**

b) Go up from 11 am on the time axis until you get to the line. Then go across until you reach the other axis. This gives you the temperature at 11 am, which was **13 °C**.

c) Go up from 1 pm on the time axis until you reach the line. Then go across until you reach the other axis and read off the temperature at that point. Repeat for 3 pm.

At 1 pm it was 14 °C. At 3 pm it was 8 °C.
 So it fell $14 - 8 = 6$ °C

4) a) To find the number of children in Class 5, add up the heights of all the bars.

$$4 + 10 + 7 + 6 = 27$$

b) There are $3\frac{1}{2}$ pictures next to 'Blue'. Each picture means 4 children, so each $\frac{1}{2}$ picture means $4 \div 2 = 2$ children. So there are $(3 \times 4) + 2 = 12 + 2 =$

14 children with blue eyes.

c) Reading from the bar chart, 4 children in Class 5 have brown eyes.

There are 2 pictures next to 'Brown' in the pictogram, so $2 \times 4 = 8$ children in Class 6 have brown eyes.

So $8 - 4 = 4$ more children in Class 6 than in Class 5 have brown eyes.