Day 201 **C Tier 10-a-day: Model Solutions**

1 Writing expressions

Simplify t × 7

Write the number first, then the letters in alphabetical order, with no × signs

Answer: 7t

2 Length conversions

Change
(a) 30 mm into cm
(b) 900 cm into m

(a) 10 mm = 1 cm, so divide by 10: 30 ÷ 10 = 3
(b) 100 cm = 1 m, so divide by 100: 900 ÷ 100 = 9
Answer: (a) 3 cm (b) 9 m

3 Line graphs

The line graph shows the number of cars in a car park at different times.
At what time was the number of cars greatest?

The highest point on the graph is 40
This is at 8 am
Answer: 8 am

4 Powers

Work out $6^2 + 6$.

$6^2 = 36$
36 + 6 = 42
Answer: 42

5 Frequency tables

The table shows the number of brothers and sisters of each student in a class.
Write down the mode.

The mode has the highest frequency, which is 11
This is for 2 brothers and sisters
Answer: 2

6 Area of a triangle

The diagram shows a triangle.
Work out the area of the triangle.
The diagram is not drawn accurately.

Area of a triangle = base × height ÷ 2
4 × 12 = 48
48 ÷ 2 = 24
Answer: 24 cm^2

7 Coordinates

(a) Write down the coordinates of point V.
(b) Which point has coordinates (−1, 3)?

(a) V is left 2 and down 2
(b) Go left 1 and up 3: this is point G
Answer: (a) (−2, −2) (b) G

8 Ordering negative numbers

Write these numbers in order, starting with the largest.
−1, −3, 3, 1, 5

Use a number line: negative numbers are smaller the further they are from 0
Answer: 5, 3, 1, −1, −3

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9 Forming and solving equations

There are x pencils in each box.
8 boxes hold 56 pencils in total.
(a) Write down an equation using x.
(b) Solve your equation to find how many pencils are in each box.

(a) 8x = 56
(b) x = 56 ÷ 8 = 7
Answer: (a) 8x = 56 (b) x = 7

10 Order of operations

Work out 9 × 4 + 5.

Multiply first
9 × 4 = 36
36 + 5 = 41
Answer: 41