Day 45 **C Tier 10-a-day: Model Solutions**

1 The median

Here are the shoe sizes of some students.
5 3 5 4 5 3 9 9 9
Work out the median.

Put the numbers in order: 3 3 4 5 5 5 9 9 9
The middle number is 5
Answer: 5

2 Division

Work out 279 ÷ 9.

9 × 31 = 279
So 279 ÷ 9 = 31
Answer: 31

3 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
6 × 6 = 36
36 ÷ 2 = 18
Answer: 18 cm^2

4 Substitution

Work out the value of 5m when m = 2.

5m means 5 × m
5 × 2 = 10
Answer: 10

5 Ordering negative numbers

The temperatures in five towns are shown (in °C).
6, −3, 8, 3, −7
Write them in order, starting with the highest.

Use a number line: negative numbers are smaller the further they are from 0
Answer: 8, 6, 3, −3, −7

6 Sharing in a ratio

Leah and Carlos share £60 in the ratio 1 : 5.
Work out how much each person gets.

Number of parts = 1 + 5 = 6
One part = 60 ÷ 6 = 10
Leah: 1 × 10 = 10 Carlos: 5 × 10 = 50
Answer: Leah £10, Carlos £50

7 Tables of values

Complete the table of values for y = 4x.

When x = 4: y = 4 × 4 = 16
When x = 5: y = 4 × 5 = 20
Answer: x = 4: y = 16; x = 5: y = 20

8 Multiplying multiples of 10

Work out 50 × 50.

Work out 5 × 5 = 25
Then put the zeros back on
Answer: 2500

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9 Forming and solving equations

Femi has x stickers.
A friend gives Femi 10 more stickers.
Femi now has 23 stickers.
(a) Write down an equation using x.
(b) Solve your equation to find how many stickers Femi had at the start.

(a) x + 10 = 23
(b) x = 23 − 10 = 13
Answer: (a) x + 10 = 23 (b) x = 13

10 Reflection on a grid

The point P is drawn on the grid.
P is reflected in the line y = 4.
Write down the coordinates of the image of P.

P is (6, 1)
P is 3 squares below the line, so the image is 3 squares above
y-coordinate: 4 + 3 = 7
Answer: (6, 7)