Day 75 **C Tier 10-a-day: Model Solutions**

1 The median

Here are the ages of some children.
14 9 11 12 12
Work out the median.

Put the numbers in order: 9 11 12 12 14
The middle number is 12
Answer: 12

2 Missing numbers

Find the missing number.
? ÷ 4 = 4

4 × 4 = 16
Answer: 16

3 Solving equations

Solve 4 + c = 24

Subtract 4 from both sides
c = 24 − 4 = 20
Answer: c = 20

4 Time from distance and speed

A train travels 200 miles at 50 mph.
How long does the journey take?

Time = distance ÷ speed
200 ÷ 50 = 4
Answer: 4 hours

5 Translating a point

The point A has coordinates (−5, −5).
A is moved 4 right and 2 down.
Write down the coordinates of the new point.

x-coordinate: −5 + 4 = −1
y-coordinate: −5 − 2 = −7
Answer: (−1, −7)

6 Special sequences

Here are the first four terms of a sequence.
1, 3, 6, 10
Write down the next term.

The gaps go up by 1 each time: 2, 3, 4, ...
The next gap is 5, so 10 + 5 = 15
Answer: 15

7 Sharing in a ratio

Ella and Beth share £40 in the ratio 3 : 2.
Work out how much each person gets.

Number of parts = 3 + 2 = 5
One part = 40 ÷ 5 = 8
Ella: 3 × 8 = 24 Beth: 2 × 8 = 16
Answer: Ella £24, Beth £16

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8 Adding fractions

Work out $\frac{1}{9} + \frac{6}{9}$.

The denominators are the same, so add the numerators

1 + 6 = 7

Answer: $\frac{7}{9}$

9 Shaded area

The diagram shows a rectangle with a smaller rectangle cut out of it.
Work out the area of the shaded part.
The diagram is not drawn accurately.

Big rectangle: 14 × 7 = 98

Small rectangle: 8 × 5 = 40

Shaded area: 98 − 40 = 58

Answer: 58 cm^2

10 Substitution

Work out the value of 18 − h when h = 11.

18 − 11 = 7

Answer: 7