Day 111 **C Tier 10-a-day: Model Solutions**

1 Angles round a point

The diagram shows 4 angles round a point.
Work out the size of angle x.
The diagram is not drawn accurately.

Angles round a point add up to 360°
75 + 120 + 60 = 255
360 − 255 = 105
Answer: x = 105°

2 Substitution

Work out the value of $\frac{m}{8}$ when m = 32.

$\frac{m}{8}$ means m ÷ 8
32 ÷ 8 = 4
Answer: 4

3 Money: change

Uzma buys a snack for £5.75.
Uzma pays with a £10 note.
How much change does Uzma get?

Change = £10 − £5.75
1000p − 575p = £4.25
Answer: £4.25

4 The median of an even number of values

Here are the numbers of goals scored by a team in some matches.
2 5 4 1 2 5
Work out the median.

Put the numbers in order: 1 2 2 4 5 5
The middle two numbers are 2 and 4
Halfway between them: (2 + 4) ÷ 2 = 3
Answer: 3

5 Formulae in words

Here is a rule to work out the cost of hiring a bike.
Cost (£) = 4 × number of hours + 4
Work out the cost of hiring a bike for 4 hours.

Cost (£) = 4 × 4 + 4
= 16 + 4 = 20
Answer: £20

6 Enlargement

A square has sides of length 2 cm.
It is enlarged by scale factor 3.
Work out the length of a side of the enlarged square.

Multiply the side by the scale factor
2 × 3 = 6
Answer: 6 cm

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7 Ratio, finding the other part

At a rescue centre, the ratio of cats to dogs is 3 : 5.
There are 27 cats.
Work out the number of dogs.

27 ÷ 3 = 9 for each part
5 × 9 = 45
Answer: 45

8 Multiples: smallest common

Find the smallest number that is a multiple of both 4 and 6.

Multiples of 4: 4, 8, 12
Multiples of 6: 6, 12
12 is in both lists
Answer: 12

9 Finding a missing value from the mean

The mean of three numbers is 6.
Two of the numbers are 4 and 12.
Work out the other number.

Total of all the numbers: 6 × 3 = 18
Total of those given: 4 + 12 = 16
18 − 16 = 2
Answer: 2

10 Substitution into formulae

Use the formula K = 2x + 3y to work out the value of K when x = 9 and y = 7.

K = 2 × 9 + 3 × 7
= 18 + 21 = 39
Answer: K = 39