Day 73 **C Tier 10-a-day: Model Solutions**

1 Angles in a right angle

The diagram shows a right angle split into two angles.
Work out the size of angle x.
The diagram is not drawn accurately.

The square corner is a right angle, which is 90°
90 − 60 = 30
Answer: x = 30°

2 Multiplication

Work out 36 × 8.

30 × 8 = 240 and 6 × 8 = 48
240 + 48 = 288
Answer: 288

3 Collecting like terms

Simplify y + y + y

All the terms are in y, so just add or subtract the numbers in front of y
Answer: 3y

4 Estimating measurements

Which is the best estimate for the height of a classroom door?
2 cm 2 km 2 m 20 m

A door is a little taller than an adult
The best estimate is 2 m
Answer: 2 m

5 Sequences

Here are the first four terms of a sequence.
5, 11, 17, 23
Write down the next term.

The terms go up by 6 each time
23 + 6 = 29
Answer: 29

6 Prime numbers

Write down the prime number in this list.
39, 33, 47, 45

A prime number has exactly two factors, 1 and itself
39 = 3 × 13
33 = 3 × 11
45 = 3 × 15
Answer: 47

7 Reading a straight-line graph

The graph shows the cost of cheese.
Use the graph to find the cost of 6 kg of cheese.

Go up from 6 on the horizontal axis to the line, then across
Cost = £24
Answer: £24

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8 Inequalities

n is a whole number.
Write down all the possible values of n when
$1 \leq n \leq 5$

n is at least 1 and at most 5
The smallest whole number is 1 and the largest is 5
Answer: 1, 2, 3, 4, 5

9 Circles with an approximate pi

A circle has a diameter of 20 cm.
Use $\pi = 3$ to work out an estimate for its circumference.

Circumference = $\pi \times$ diameter
$3 \times 20 = 60$
Answer: 60 cm

10 Sampling

Kira wants to find out whether people like dogs.
Kira asks only people walking their dogs in a park.
Give a reason why this sample may be biased.

Dog walkers are more likely to like dogs
Answer: Dog walkers are more likely to like dogs