Day 133 **C Tier 10-a-day: Model Solutions**

1 Squares and roots

Work out 9^2.

$9^2 = 9 \times 9$
$= 81$
Answer: 81

2 Sequences

Here are the first four terms of a sequence.
2, 4, 6, 10
Each term is found by adding the two terms before it.
Write down the next two terms.

6 + 10 = 16
10 + 16 = 26
Answer: 16, 26

3 Rounding

Write 9693 to the nearest hundred.

Look at the tens digit, which is 9
9 is 5 or more, so round up
Answer: 9700

4 Perimeter on a square grid

The diagram shows a shape drawn on a square grid.
Each square has a side of length 1 cm.
Work out the perimeter of the shape.

Count the length of each side going round the shape.
4 + 1 + 1 + 2 + 1 + 1 + 4 + 2 = 16
Answer: 16 cm

5 Equations of lines

A straight line passes through the points
(7, 7), (8, 8), (9, 9)
Write down the equation of the line.

In every point the y-coordinate is equal to the x-coordinate
Answer: y = x

6 Angles between clock hands

The minute hand of a clock turns clockwise from the 10 to the 12.
Through what angle does it turn?

Each number gap on a clock is 360 ÷ 12 = 30°
From 10 to 12 is 2 gaps
2 × 30 = 60
Answer: 60°

7 Reading a straight-line graph

The graph shows the cost of cheese.
Use the graph to find the cost of 8 kg of cheese.

Go up from 8 on the horizontal axis to the line, then across
Cost = £40
Answer: £40

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8 Timetables

The table shows the times of two buses.
Jo gets on Bus 1 at Park Road.
What time does Jo get to Station?

Read along the row for Station in the Bus 1 column
Answer: 10:20

9 Expected number

The probability that a bus is late is $\frac{1}{5}$.

There are 60 buses in a week.
How many buses would you expect to be late?

Expected number = probability × number of trials

$\frac{1}{5} \times 60 = 12$

Answer: 12

10 Cost from perimeter

A rectangular pond is 6 m long and 6 m wide.
Edging costs £4 per metre.
Work out the cost of putting edging all the way round the pond.

Perimeter = 6 + 6 + 6 + 6 = 24 m
Cost = 24 × £4 = £96
Answer: £96