Day 80 **C Tier 10-a-day: Model Solutions**

1 Substitution

Work out the value of h − 5 when h = 11.

11 − 5 = 6

Answer: 6

2 Translating a point

The point A has coordinates (1, 1).
A is moved 6 right and 4 down.
Write down the coordinates of the new point.

x-coordinate: 1 + 6 = 7
y-coordinate: 1 − 4 = −3

Answer: (7, −3)

3 Rounding decimals

Round 81.3 to the nearest whole number.

Look at the first decimal digit, which is 3
3 is less than 5, so round down

Answer: 81

4 Angles round a point

The diagram shows 3 angles round a point.
Work out the size of angle a.
The diagram is not drawn accurately.

Angles round a point add up to 360°
75 + 110 = 185
360 − 185 = 175

Answer: a = 175°

5 Timetables

The table shows part of a bus timetable.
Sam gets on Bus 2 at Library.
At what time does the bus arrive at School?

Look along the row for School and down the Bus 2 column: 09:50

Answer: 09:50

6 Reading straight line graphs

The graph shows the cost of hiring a bike.
(a) Work out the cost of hiring the bike for 4 hours.
(b) Kim pays £6 to hire the bike. For how many hours does Kim hire it?

(a) Go up from 4 on the bottom axis to the line, then across: £10
(b) Go across from 6 on the cost axis to the line, then down: 2

Answer: (a) £10 (b) 2

7 Multiplying multiples of 10

Work out 300 × 6.

Work out 3 × 6 = 18
Then put the zeros back on

Answer: 1800

8 Map scales

On a map, 1 cm represents 100 km.
Two towns are 2 cm apart on the map.
Work out the real distance between the towns.

2 × 100 = 200

Answer: 200 km

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9 Circles with an approximate pi

A circle has a diameter of 100 cm.
Work out its circumference.
Use $\pi = 3.14$

Circumference = $\pi \times$ diameter
$3.14 \times 100 = 314$
Answer: 314 cm

10 Expected number

The probability that a bus is late is $\frac{1}{4}$.

There are 28 buses in a week.
How many buses would you expect to be late?

Expected number = probability × number of trials
$\frac{1}{4} \times 28 = 7$
Answer: 7