Day 137 **C Tier 10-a-day: Model Solutions**

1 The nth term

The nth term of a sequence is 7n.
Write down the first three terms of the sequence.

Put n = 1, 2, 3 into 7n
7 × 1 = 7, 7 × 2 = 14, 7 × 3 = 21
Answer: 7, 14, 21

2 Perimeter of a rectangle

The diagram shows a rectangle.
Work out the perimeter of the rectangle.
The diagram is not drawn accurately.

Add up all four sides
7 + 4 + 7 + 4 = 22
Answer: 22 mm

3 Solving equations

Solve d − 11 = 9

Add 11 to both sides
d = 9 + 11 = 20
Answer: d = 20

4 Negative numbers: temperature

The temperature is −5°C.
It rises by 3°C.
What is the new temperature?

−5 + 3 = −2
Answer: −2°C

5 Map scales

On a map, 1 cm represents 50 km.
Two towns are 350 km apart in real life.
How far apart are they on the map?

350 ÷ 50 = 7
Answer: 7 cm

6 Perimeter of a regular polygon

The perimeter of a regular octagon is 72 cm.
Work out the length of one side.

A regular octagon has 8 equal sides
72 ÷ 8 = 9
Answer: 9 cm

7 Division with remainders

65 stickers are shared equally between 7 children.
(a) How many does each child get?
(b) How many are left over?

65 ÷ 7 = 9 remainder 2
Answer: (a) 9 (b) 2

8 Completing a table

The table shows the favourite colour of 50 children.
Work out the number of children for Pink.

Add the known numbers: 10 + 9 + 11 = 30
50 − 30 = 20
Answer: 20

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9 Multiples: smallest common

Find the smallest number that is a multiple of both 4 and 10.

Multiples of 4: 4, 8, 12, 16, 20
Multiples of 10: 10, 20
20 is in both lists
Answer: 20

10 Relative frequency

Out of 50 trains, 21 were late.
Estimate the probability of being late.
Give your answer as a decimal.

Relative frequency = $\frac{21}{50}$

21 ÷ 50 = 0.42
Answer: 0.42