Day 319 **C Tier 10-a-day: Model Solutions**

1 Substitution

Work out the value of 9k when k = 7.

9k means 9 × k
9 × 7 = 63
Answer: 63

2 Rates

A tap fills a bath at 15 litres each minute.
How many minutes does it take to reach 90 litres?

90 ÷ 15 = 6
Answer: 6 minutes

3 Adding decimals

Work out 1.7 + 2.6.

Line up the decimal points
1.7 + 2.6 = 4.3
Answer: 4.3

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.
3 + 1 + 2 + 4 + 2 + 1 + 3 + 2 = 18
Answer: 18 cm

5 Function machines

Here is a function machine.
The output is 11.
Work out the input.

Work backwards using the opposite operations
11 − 5 = 6
6 ÷ 3 = 2
Answer: 2

6 Missing side from area

A rectangular wall has an area of 42 m^2.
Its width is 6 m.
Work out its length.

Area = length × width
42 = length × 6
length = 42 ÷ 6 = 7
Answer: 7 m

7 Multiplying multiples of 10

Work out 200 × 3.

Work out 2 × 3 = 6
Then put the zeros back on
Answer: 600

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8 Travel graphs

The graph shows a journey. Tom walks from home to a shop and then back home.
(a) How far from home is the shop?
(b) For how many hours did the journey stop at the shop?

(a) The highest point of the graph is 10 km
(b) The graph is flat from 1 to 3 hours: 2 hours
Answer: (a) 10 km (b) 2 hours

9 Inequalities

n is a whole number.
Write down all the possible values of n when
$4 < n \leq 7$

n is bigger than 4 and at most 7
The smallest whole number is 5 and the largest is 7
Answer: 5, 6, 7

10 Time

A party starts at 4:20 pm.
It finishes at 5:40 pm.
How long does it last?

4:20 pm to 5:00 pm is 40 minutes
5:00 pm to 5:40 pm is 40 minutes
Add the parts together
Answer: 1 hour 20 minutes