Day 71 **C Tier 10-a-day: Model Solutions**

1 Substitution

Work out the value of 8d when d = 4.

8d means 8 × d
8 × 4 = 32
Answer: 32

2 Choosing units

Which unit is best for measuring the amount of medicine in a spoon?
Choose from: ml, litres

A spoonful is only a few millilitres
So the best unit is ml
Answer: ml

3 Rounding

Write 2195 to the nearest hundred.

Look at the tens digit, which is 9
9 is 5 or more, so round up
Answer: 2200

4 Midpoint of a line

C is the point (−1, 0).
D is the point (−1, 10).
Work out the coordinates of the midpoint of CD.

Find the number halfway between the x-coordinates: (−1 + −1) ÷ 2 = −1
Find the number halfway between the y-coordinates: (0 + 10) ÷ 2 = 5
Answer: (−1, 5)

5 Solving equations

Solve z − 2 = 4

Add 2 to both sides
z = 4 + 2 = 6
Answer: z = 6

6 Two-way tables

The two-way table shows some information.
Work out the missing number, shown by ?

The row total is 28 and the other number is 14
28 − 14 = 14
Answer: 14

7 Using formulae

The distance, d km, travelled in t hours is given by the formula d = 5t.
(a) Work out the value of d when t = 4.
(b) Work out the value of t when d = 30.

(a) d = 5 × 4 = 20
(b) 5t = 30, so t = 30 ÷ 5 = 6
Answer: (a) d = 20 (b) t = 6

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8 Volume by counting cubes

A box holds 1 cm cubes in layers.
Each layer is 3 cubes long and 2 cubes wide.
There are 4 layers.
How many cubes are there altogether?

Cubes in one layer: $3 \times 2 = 6$
Number of layers: 4
$6 \times 4 = 24$
Answer: 24 cubes

9 Probability of not getting a colour

A bag contains 8 black sweets, 8 yellow sweets and 3 green sweets.
One is taken at random.
Write down the probability that it is not green.

Number that are not green: $8 + 8 = 16$
Total: 19
Probability = $\frac{16}{19}$
Answer: $\mathbf{\frac{16}{19}}$

10 Number sequences

Here is a number sequence.
11, 17, 23, 29, ...
Write down the next two numbers.

The sequence goes up by 6 each time
$29 + 6 = 35$, $35 + 6 = 41$
Answer: 35, 41