Day 226 **C Tier 10-a-day: Model Solutions**

1 Distance from speed and time

A cyclist travels at 8 km/h for 2 hours.
How far does it travel?

Distance = speed × time
8 × 2 = 16
Answer: 16 km

2 Writing expressions

Simplify 2 × m × x

Write the number first, then the letters in alphabetical order, with no × signs
Answer: 2mx

3 Proportion

2 cartons cost 60p.
Work out the cost of 3 cartons.

Cost of one carton: 60p ÷ 2 = 30p
30p × 3 = 90p
Answer: 90p

4 Area of a rectangle

A rectangular lawn is 5 cm long and 2 cm wide.
Work out its area.

Area = length × width
5 × 2 = 10
Answer: 10 cm^2

5 Solving equations

Solve $\frac{q}{9} = 7$

$\frac{q}{9}$ means q ÷ 9, so multiply both sides by 9
q = 7 × 9 = 63
Answer: q = 63

6 The mean

Here are the numbers of goals scored by a team in some matches.
6 4 1 1 6 6
Work out the mean.

Add up the values: 6 + 4 + 1 + 1 + 6 + 6 = 24
Divide by 6: 24 ÷ 6 = 4
Answer: 4

7 Time

A swimming lesson starts at 6:20 pm.
It lasts for 2 hours 10 minutes.
At what time does it finish?

6:20 pm + 2 hours = 8:20 pm
8:20 pm + 10 minutes = 8:30 pm
Answer: 8:30 pm

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8 Midpoint of a line

C is the point (2, 8).
D is the point (4, 8).
Work out the coordinates of the midpoint of CD.

Find the number halfway between the x-coordinates: (2 + 4) ÷ 2 = 3
Find the number halfway between the y-coordinates: (8 + 8) ÷ 2 = 8
Answer: (3, 8)

9 Equivalent fractions

Find the missing number.

$\frac{1}{8} = \frac{?}{24}$

8 × 3 = 24, so multiply the top by 3 as well
1 × 3 = 3
Answer: 3

10 Estimating measurements

Which is the best estimate for the mass of an apple?
150 g 1.5 g 150 kg 15 kg

An apple is light, a few hundred grams at most
The best estimate is 150 g
Answer: 150 g