Day 177 **C Tier 10-a-day: Model Solutions**

1 Missing numbers

Find the missing number.

? ÷ 4 = 3

3 × 4 = 12

Answer: 12

2 Choosing units

Which unit is best for measuring the mass of a grape?

Choose from: g, kg, tonnes

A grape is only a few grams

So the best unit is g

Answer: g

3 Writing expressions

Isla is y years old.

Ali is 5 years younger than Isla.

Write an expression for Ali's age.

5 years younger means take away 5: $y - 5$

Answer: $y - 5$

4 Faces, edges and vertices

How many edges does a triangular-based pyramid have?

A triangular-based pyramid: 3 edges round the base plus 3 up to the top: 3 + 3 = 6

Answer: 6

5 Distance from speed and time

A car travels at 30 mph for 4 hours.

How far does it travel?

Distance = speed × time

30 × 4 = 120

Answer: 120 miles

6 Perimeter of an L-shape

The diagram shows an L-shape.

All the corners are right angles.

Work out the perimeter of the shape.

The diagram is not drawn accurately.

Find the two missing sides.

Missing horizontal side: $11 - 3 = 8$

Missing vertical side: $6 - 2 = 4$

Add all six sides: 11 + 2 + 8 + 4 + 3 + 6 = 34

Answer: 34 m

7 Relative frequency

A spinner is spun 50 times and lands on red 5 times.

Estimate the probability that it lands on red next time.

Give your answer as a fraction in its simplest form.

Relative frequency = $\frac{5}{50}$

$= \frac{1}{10}$

Answer: $\frac{1}{10}$

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8 Division in context

Each van holds 30 people.
97 people need a lift.
How many vans are needed?

97 ÷ 30 = 3 remainder 7
The extra people need another van
Answer: 4

9 Equations of lines

A straight line passes through the points
(4, 2), (8, 2), (9, 2)
Write down the equation of the line.

Every point has y-coordinate 2, so the line is horizontal
Answer: y = 2

10 Order of operations

Work out 9 × 3 + 5.

Multiply first
9 × 3 = 27
27 + 5 = 32
Answer: 32