Day 141 **C Tier 10-a-day: Model Solutions**

1 Names of polygons

How many sides does a heptagon have?

A heptagon has 7 sides

Answer: 7

2 Metric units

Change 15 cm to millimetres.

1 cm = 10 mm

15 × 10 = 150

Answer: 150 mm

3 Scaling a recipe

A recipe for flapjacks for 5 people uses 225 g of sugar.
Work out how much sugar is needed for 15 people.

15 people is 3 times as many as 5 people

225 × 3 = 675

Answer: 675 g

4 Translating a point

The point A has coordinates (1, 3).
A is moved 6 right and 1 down.
Write down the coordinates of the new point.

x-coordinate: 1 + 6 = 7

y-coordinate: 3 − 1 = 2

Answer: (7, 2)

5 Equivalent fractions

Find the missing number.

$\frac{1}{10} = \frac{?}{30}$

10 × 3 = 30, so multiply the top by 3 as well

1 × 3 = 3

Answer: 3

6 Equations of lines

A straight line passes through the points
(4, 4), (5, 5), (8, 8)
Write down the equation of the line.

In every point the y-coordinate is equal to the x-coordinate

Answer: y = x

7 Area of a triangle

The diagram shows a triangle.
Work out the area of the triangle.
The diagram is not drawn accurately.

Area of a triangle = base × height ÷ 2

4 × 10 = 40

40 ÷ 2 = 20

Answer: 20 cm^2

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8 Expected number

A spinner lands on blue with probability 0.5.
It is spun 80 times.
How many times would you expect it to land on blue?

Expected number = probability × number of trials
0.5 × 80 = 40
Answer: 40

9 Multiples: smallest common

Find the smallest number that is a multiple of both 5 and 6.

Multiples of 5: 5, 10, 15, 20, 25, 30
Multiples of 6: 6, 12, 18, 24, 30
30 is in both lists
Answer: 30

10 Substitution

Work out the value of 2t + 3 when t = 2.

2t = 2 × 2 = 4
4 + 3 = 7
Answer: 7