Day 358 **C Tier 10-a-day: Model Solutions**

1 Missing numbers

Find the missing number.

5 + ? = 13

13 − 5 = 8

Answer: 8

2 Angles round a point

The diagram shows 3 angles round a point.

Work out the size of angle y.

The diagram is not drawn accurately.

Angles round a point add up to 360°

105 + 85 = 190

360 − 190 = 170

Answer: y = 170°

3 Number puzzles

Max thinks of a number.

Max subtracts 5.

The answer is 8.

What number did Max think of?

Add 5 to 8

8 + 5 = 13

Answer: 13

4 Rates

A tap fills a bath at 12 litres each minute.

How many litres are in the bath after 9 minutes?

12 × 9 = 108

Answer: 108 litres

5 Collecting like terms

Simplify q + 8q

All the terms are in q, so just add or subtract the numbers in front of q

Answer: 9q

6 Volume of a cuboid

The diagram shows a cuboid.

Work out the volume of the cuboid.

The diagram is not drawn accurately.

Volume = length × width × height

9 × 6 × 2

9 × 6 = 54, then 54 × 2 = 108

Answer: 108 cm^3

7 Ordering fractions

Write these fractions in order, starting with the largest.

$\frac{3}{12}, \frac{5}{12}, \frac{11}{12}$

The denominators are all 12, so compare the numerators

11, 5, 3 (numerators in order)

Answer: $\frac{11}{12}, \frac{5}{12}, \frac{3}{12}$

Day 358 **C Tier 10-a-day: Model Solutions**

8 Rotational symmetry

Write down the order of rotational symmetry of
(a) a rectangle
(b) a regular octagon

(a) A rectangle fits onto itself 2 times in a full turn
(b) A regular octagon fits onto itself 8 times in a full turn
Answer: (a) 2 (b) 8

9 Sampling

Ravi wants to find out the favourite food of students in a school.
Ravi asks only five of their friends.
Give a reason why this sample may be biased.

The sample is too small and only includes friends
Answer: The sample is too small and only includes friends

10 Division in context

Each minibus holds 20 people.
72 people need a lift.
How many minibuses are needed?

72 ÷ 20 = 3 remainder 12
The extra people need another minibus
Answer: 4