Day 21 **C Tier 10-a-day: Model Solutions**

1 Names of polygons

A polygon has 8 sides.
Write down the name of this polygon.

A shape with 8 sides is called an octagon
Answer: octagon

2 Substitution

Work out the value of $\frac{x}{5}$ when x = 10.

$\frac{x}{5}$ means x ÷ 5
10 ÷ 5 = 2
Answer: 2

3 Number sequences

Here is a number sequence.
10, 14, 18, 22, ...
Write down the next two numbers.

The sequence goes up by 4 each time
22 + 4 = 26, 26 + 4 = 30
Answer: 26, 30

4 Writing expressions

Priya has x marbles.
Gita has 2 more marbles than Priya.
Write an expression for the number of marbles that Gita has.

2 more than x is x + 2
Answer: x + 2

5 Perimeter of a regular polygon

The perimeter of a regular equilateral triangle is 18 m.
Work out the length of one side.

A regular equilateral triangle has 3 equal sides
18 ÷ 3 = 6
Answer: 6 m

6 Sampling

Isla wants to find out how much money people spend on books.
Isla asks only people in a bookshop.
Give a reason why this sample may be biased.

People in a bookshop are more likely to spend a lot on books
Answer: People in a bookshop are more likely to spend a lot on books

7 Simplifying fractions

Write $\frac{9}{21}$ in its simplest form.

Divide the top and bottom by 3
$\frac{9}{21} = \frac{3}{7}$
Answer: $\frac{3}{7}$

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8 Simplifying ratios

Simplify the ratio 72 : 40

Divide both numbers by 8
72 ÷ 8 = 9 and 40 ÷ 8 = 5
Answer: 9 : 5

9 Sequences

Here are the first four terms of a sequence.
8, 16, 24, 32
Is 64 a term in this sequence?
You must show your working.

The terms go up by 8 each time
Continue the sequence: 8, 16, 24, 32, 40, 48, 56, 64, 72
64 is in the list
Answer: Yes

10 Multiples: smallest common

Find the smallest number that is a multiple of both 6 and 9.

Multiples of 6: 6, 12, 18
Multiples of 9: 9, 18
18 is in both lists
Answer: 18