Day 334 **C Tier 10-a-day: Model Solutions**

1 Pattern sequences

The diagram shows the first three patterns in a sequence made by Isla.
Each pattern is made from dots.
How many dots are in Pattern 6?

Each pattern is a square: 1 × 1, 2 × 2, 3 × 3
Pattern 6 is 6 × 6 = 36
Answer: 36

2 Types of angle

Write down the type of each angle.
Choose from: acute, right, obtuse, reflex.
(a) 70°
(b) 300°

(a) 70° is less than 90°, so it is acute
(b) 300° is more than 180°, so it is reflex
Answer: (a) acute (b) reflex

3 Sequences

Here are the first four terms of a sequence.
38, 34, 30, 26
Write down the next term.

The terms go down by 4 each time
26 − 4 = 22
Answer: 22

4 Metric units

Change 8000 ml to litres.

1 litre = 1000 ml
8000 ÷ 1000 = 8
Answer: 8 litres

5 Isosceles triangles

The diagram shows an isosceles triangle.
Work out the size of angle x.
The diagram is not drawn accurately.

The triangle is isosceles, so the two base angles are both 70°
70 + 70 = 140
180 − 140 = 40
Answer: x = 40°

6 Solving equations

Solve 7x = 77

7x means 7 × x, so divide both sides by 7
x = 77 ÷ 7 = 11
Answer: x = 11

7 Proportion

2 notebooks cost 80p.
Work out the cost of 3 notebooks.

Cost of one notebook: 80p ÷ 2 = 40p
40p × 3 = 120p
120p = £1.20
Answer: £1.20

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8 Simplifying fractions

Write $\frac{4}{8}$ in its simplest form.

Divide the top and bottom by 4

$\frac{4}{8} = \frac{1}{2}$

Answer: $\frac{1}{2}$

9 Finding a missing value from the mean

The mean of four numbers is 10.
Three of the numbers are 7, 10 and 6.
Work out the other number.

Total of all the numbers: $10 \times 4 = 40$
Total of those given: $7 + 10 + 6 = 23$
$40 - 23 = 17$
Answer: 17

10 Perimeter from area

A rectangular garden has an area of 78 m^2.
Its width is 6 m.
Work out the perimeter of the garden.

Length = area ÷ width = 78 ÷ 6 = 13
Perimeter = 13 + 6 + 13 + 6 = 38
Answer: 38 m