Day 273 **C Tier 10-a-day: Model Solutions**

1 Division

Work out 144 ÷ 8.

8 × 18 = 144
So 144 ÷ 8 = 18
Answer: 18

2 Sequences

Here is a sequence with one number missing.
17, ?, 23, 26, 29
Work out the missing number.

The terms go up by 3 each time
17 + 3 = 20
Answer: 20

3 Probability of an event not happening

The probability that the bus is late is $\frac{3}{4}$.

Work out the probability that this does not happen.

P(not) = 1 − P(event)
$1 - \frac{3}{4} = \frac{1}{4}$
Answer: $\frac{1}{4}$

4 Angles in a quadrilateral

The diagram shows a quadrilateral.
Work out the size of angle b.
The diagram is not drawn accurately.

Angles in a quadrilateral add up to 360°
125 + 85 + 85 = 295
360 − 295 = 65
Answer: b = 65°

5 Multiplying multiples of 10

Work out 300 × 3.

Work out 3 × 3 = 9
Then put the zeros back on
Answer: 900

6 Enlargement

A triangle has sides of length 3 cm, 7 cm and 8 cm.
It is enlarged by scale factor 4.
Write down the lengths of the sides of the enlarged triangle.

Multiply each side by 4
3 × 4 = 12, 7 × 4 = 28, 8 × 4 = 32
Answer: 12 cm, 28 cm, 32 cm

7 Simplifying expressions

Simplify 5b + 1 − 2b

Letters: 5b − 2b = 3b
Numbers: 1 on its own
Answer: 3b + 1

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8 Venn diagrams

Some students were asked whether they like pizza or pasta.
The Venn diagram shows the results.
How many students were asked altogether?

Add all four numbers: 2 + 2 + 7 + 8 = 19
Answer: 19

9 Equivalent fractions

Find the missing number.

$\frac{3}{4} = \frac{6}{?}$

3 × 2 = 6, so multiply the bottom by 2 as well
4 × 2 = 8
Answer: 8

10 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: 12 − 8 = 4
Missing vertical side: 5 − 2 = 3
Add all six sides: 12 + 2 + 4 + 3 + 8 + 5 = 34
Answer: 34 m