Day 299 **C Tier 10-a-day: Model Solutions**

1 The mode

Here are the shoe sizes of some students.
7 6 4 3 5 9 9 4 9 7
Write down the mode.

The mode is the value that appears most often
9 appears 3 times
Answer: 9

2 Writing expressions

Simplify 3 × q × t

Write the number first, then the letters in alphabetical order, with no × signs
Answer: 3qt

3 Rounding decimals

Round 96.8 to the nearest whole number.

Look at the first decimal digit, which is 8
8 is 5 or more, so round up
Answer: 97

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°
60 + 110 + 110 = 280
360 − 280 = 80
Answer: b = 80°

5 Solving equations

Solve d − 6 = 2

Add 6 to both sides
d = 2 + 6 = 8
Answer: d = 8

6 Probabilities add up to 1

A spinner has four colours.
The table shows the probability of each colour.
The probabilities add up to 1.
Work out the missing probability.

Add the known probabilities: 0.2 + 0.5 + 0.2 = 0.9
1 − 0.9 = 0.1
Answer: 0.1

7 Adding fractions

Work out $\frac{6}{8} + \frac{1}{8}$.

The denominators are the same, so add the numerators
6 + 1 = 7
Answer: $\frac{7}{8}$

8 Two-way tables

The two-way table shows some information.
Work out the missing number, shown by ?

Pizza column: 8 + 17 = 25
Answer: 25

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9 Forming and solving equations

x cakes are shared equally between 4 friends.
Each friend gets 3 cakes.
(a) Write down an equation using x.
(b) Solve your equation to find how many cakes there were.

(a) $\frac{x}{4} = 3$

(b) $x = 3 \times 4 = 12$

Answer: (a) $\frac{x}{4} = 3$ (b) $x = 12$

10 Perimeter of a square from its area

A square patio has an area of 36 m^2.
Work out the perimeter of the patio.

Side × side = 36, so the side is 6 m (because 6 × 6 = 36)
Perimeter = 4 × 6 = 24
Answer: 24 m