Day 269 **C Tier 10-a-day: Model Solutions**

1 Coordinates

ABCD is a rectangle.
A is the point (0, 8), B is the point (0, 4) and C is the point (8, 4).
Write down the coordinates of D.

AB is vertical so D has the same y-coordinate as A: 8
BC is horizontal so D has the same x-coordinate as C: 8
Answer: (8, 8)

2 Fractions of a shape

What fraction of the shape is shaded?

There are 10 equal parts
1 parts are shaded

Fraction shaded = $\frac{1}{10}$

Answer: $\frac{1}{10}$

3 Substitution

Work out the value of $\frac{x}{7}$ when x = 21.

$\frac{x}{7}$ means x ÷ 7
21 ÷ 7 = 3
Answer: 3

4 Rates

A printer prints 6 pages each minute.
How many minutes does it take to reach 30 pages?

30 ÷ 6 = 5
Answer: 5 minutes

5 Formulae in words

Here is a rule to work out the fare for a taxi journey.
Fare (£) = 8 × number of miles + 4
Work out the fare for a journey of 5 miles.

Fare (£) = 8 × 5 + 4
= 40 + 4 = 44
Answer: £44

6 Midpoint of a line

P is the point (3, 4).
Q is the point (7, 4).
Work out the coordinates of the midpoint of PQ.

Find the number halfway between the x-coordinates: (3 + 7) ÷ 2 = 5
Find the number halfway between the y-coordinates: (4 + 4) ÷ 2 = 4
Answer: (5, 4)

7 Fractions of amounts

Work out $\frac{1}{6}$ of £54.

Divide by 6
54 ÷ 6 = 9
Answer: £9

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8 Bar charts

The bar chart shows the favourite fruit of some students.
Write down the number of students for Pear.

Read the height of the Pear bar: 3
Answer: 3

9 Writing numbers in figures

Write five hundred and fifty-seven in figures.

Write each part: 500 + 57
Add the parts together
Answer: 557

10 Circles with an approximate pi

A circle has a diameter of 30 cm.
Work out its circumference.
Use $\pi = 3.14$

Circumference = $\pi \times$ diameter
$3.14 \times 30 = 94.2$
Answer: 94.2 cm