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

1 The mode

Here are the marks in a test.
14 7 20 10 6 17 8 17 17
Write down the mode.

The mode is the value that appears most often
17 appears 3 times
Answer: 17

2 Missing numbers

Find the missing number.
30 − ? = 22

30 − 22 = 8
Answer: 8

3 Coordinates

ABCD is a rectangle.
A is the point (3, 1), B is the point (5, 1) and C is the point (5, 4).
Write down the coordinates of D.

AB is horizontal so D has the same x-coordinate as A: 3
BC is vertical so D has the same y-coordinate as C: 4
Answer: (3, 4)

4 Probability of an event not happening

The probability that the bus is late is $\frac{7}{8}$.

Work out the probability that this does not happen.

P(not) = 1 − P(event)

$1 - \frac{7}{8} = \frac{1}{8}$

Answer: $\frac{1}{8}$

5 Ordering decimals

Write these numbers in order, starting with the smallest.
0.2, 0.15, 0.25, 0.3

Write each with the same number of decimal places
0.15, 0.20, 0.25, 0.30
Answer: 0.15, 0.2, 0.25, 0.3

6 Substitution

Work out the value of 6d − 7 when d = 9.

6d = 6 × 9 = 54
54 − 7 = 47
Answer: 47

7 Reading a scale

The diagram shows part of a measuring scale.
Write down the reading shown by the arrow.

The labelled marks go up in 100. There are 4 small steps between labelled marks, so each small step is 100 ÷ 4 = 25.
The arrow is 1 small steps after 200.
200 + 1 × 25 = 225
Answer: 225 ml

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8 Multiples: smallest common

Find the smallest number that is a multiple of both 6 and 10.

Multiples of 6: 6, 12, 18, 24, 30
Multiples of 10: 10, 20, 30
30 is in both lists
Answer: 30

9 Using formulae

The distance, d km, travelled in t hours is given by the formula d = 9t.
(a) Work out the value of d when t = 4.
(b) Work out the value of t when d = 36.

(a) d = 9 × 4 = 36
(b) 9t = 36, so t = 36 ÷ 9 = 4
Answer: (a) d = 36 (b) t = 4

10 Shaded area

The diagram shows a rectangle with a smaller rectangle cut out of it.
Work out the area of the shaded part.
The diagram is not drawn accurately.

Big rectangle: 12 × 10 = 120
Small rectangle: 7 × 7 = 49
Shaded area: 120 − 49 = 71
Answer: 71 m^2