Day 225 **C Tier 10-a-day: Model Solutions**

1 Angles in a right angle

A right angle is split into two angles by a line.
Work out the size of angle x.
The diagram is not drawn accurately.

The square corner is a right angle, which is 90°
90 − 65 = 25
Answer: x = 25°

2 Pay rates

Amir is paid £12 for each hour of work.
Amir is paid £24 in total.
How many hours did Amir work?

£24 ÷ £12 = 2
Answer: 2 hours

3 Money: totals

Chloe buys a ruler and a pencil.
A ruler costs 55p.
A pencil costs £1.20.
Work out the total cost.

55p + £1.20
55p + 120p = 175p = £1.75
Answer: £1.75

4 Duration of a journey

A train leaves at 3:45 pm and arrives at 6:40 pm.
How long does the journey take?

Count on from 3:45 pm to 6:40 pm:
15 minutes to 4:00 pm
2 hours to 6:00 pm
40 minutes to 6:40 pm
Total: 2 hours 55 minutes
Answer: 2 hours 55 minutes

5 Simplifying expressions

Simplify 13a + 1 − 7a

Letters: 13a − 7a = 6a
Numbers: 1 on its own
Answer: 6a + 1

6 Ordering negative numbers

The temperatures in five towns are shown (in °C).
2, 1, 8, −6, −2
Write them in order, starting with the highest.

Use a number line: negative numbers are smaller the further they are from 0
Answer: 8, 2, 1, −2, −6

7 Coordinates

(a) Write down the coordinates of point R.
(b) Which point has coordinates (2, −2)?

(a) R is right 1 and up 2
(b) Go right 2 and down 2: this is point Q
Answer: (a) (1, 2) (b) Q

Day 225 **C Tier 10-a-day: Model Solutions**

8 Probability of not getting a colour

A bag contains 3 red beads, 4 black beads and 1 yellow beads.
One is taken at random.
Write down the probability that it is not yellow.

Number that are not yellow: 3 + 4 = 7
Total: 8
Probability = $\frac{7}{8}$

Answer: $\frac{7}{8}$

9 Pattern sequences

The diagram shows the first three patterns in a sequence made by Tara.
Each pattern is made from counters.
How many counters are in Pattern 4?

Pattern n is n rows of (n + 1): 1 × 2, 2 × 3, 3 × 4
Pattern 4 is 4 × 5 = 20
Answer: 20

10 Time conversions

Change 144 hours into days.

24 hours = 1 days, so divide by 24: 144 ÷ 24 = 6
Answer: 6 days