Day 214 **C Tier 10-a-day: Model Solutions**

1 Writing ratios

In a class there are 9 boys and 10 girls.
Write down the ratio of girls to boys.

The ratio of girls to boys is written 10 : 9
Answer: 10 : 9

2 Angles round a point

The diagram shows 3 angles round a point.
Work out the size of angle b.
The diagram is not drawn accurately.

Angles round a point add up to 360°
60 + 140 = 200
360 − 200 = 160
Answer: b = 160°

3 Adding decimals

Work out 2.1 + 6.8.

Line up the decimal points
2.1 + 6.8 = 8.9
Answer: 8.9

4 Tables of values

The table shows some values of x and y.
(a) Write down the value of y when x = 0.
(b) Write down the value of x when y = 10.

(a) Find 0 in the top row; the number underneath is 6
(b) Find 10 in the bottom row; the number above is 1
Answer: (a) 6 (b) 1

5 24-hour clock

Write 6:05 pm using the 24-hour clock.

pm times: add 12 to the hour, e.g. 6 + 12 = 18
6:05 pm = 18:05
Answer: 18:05

6 Expected number

A spinner lands on blue with probability $\frac{3}{10}$.

It is spun 110 times.
How many times would you expect it to land on blue?

Expected number = probability × number of trials
$\frac{3}{10} \times 110 = 33$
Answer: 33

7 Coordinates

(a) Write down the coordinates of point G.
(b) Which point has coordinates (−1, −1)?

(a) G is right 3 and up 2
(b) Go left 1 and down 1: this is point C
Answer: (a) (3, 2) (b) C

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8 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: 11 − 6 = 5
Missing vertical side: 10 − 8 = 2
Add all six sides: 11 + 8 + 5 + 2 + 6 + 10 = 42
Answer: 42 m

9 Probability of not getting a colour

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

Number that are not yellow: 4 + 3 = 7
Total: 11
Probability = $\frac{7}{11}$
Answer: $\frac{7}{11}$

10 Order of operations

Work out 9 × 3 + 9.

Multiply first
9 × 3 = 27
27 + 9 = 36
Answer: 36