Day 267 **C Tier 10-a-day: Model Solutions**

1 Reading a clock

Write down the time shown on the clock.

The minute hand points to 4, which is 4 × 5 = 20 minutes past, and the hour hand has passed the 3
The time is 3:20
Answer: 3:20

2 Substitution

Work out the value of b − 2 when b = −1.

−1 − 2 = −3
Answer: −3

3 Multiplication

Work out 31 × 6.

30 × 6 = 180 and 1 × 6 = 6
180 + 6 = 186
Answer: 186

4 Tables of values

The table shows some values of x and y.
(a) Write down the value of y when x = 1.
(b) Write down the value of x when y = 11.

(a) Find 1 in the top row; the number underneath is 5
(b) Find 11 in the bottom row; the number above is 3
Answer: (a) 5 (b) 3

5 Map scales

On a map, 1 cm represents 20 km.
On the map, two towns are 4 cm apart.
Work out the real distance between the towns.

1 cm represents 20 km
4 × 20 = 80
Answer: 80 km

6 Fractions, decimals and percentages

Write $\frac{3}{10}$ as a decimal.

Make the bottom 100: $\frac{3}{10} = \frac{30}{100}$

= 0.3
Answer: 0.3

7 Travel graphs

The graph shows a journey. Sam cycles from home to a shop and then back home.
(a) How far from home is the shop?
(b) For how many hours did the journey stop at the shop?

(a) The highest point of the graph is 10 km
(b) The graph is flat from 1 to 2 hours: 1 hour
Answer: (a) 10 km (b) 1 hour

8 Enlargement

A triangle has sides of length 4 cm, 5 cm and 6 cm.
It is enlarged by scale factor 2.
Write down the lengths of the sides of the enlarged triangle.

Multiply each side by 2
4 × 2 = 8, 5 × 2 = 10, 6 × 2 = 12
Answer: 8 cm, 10 cm, 12 cm

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9 The nth term

The nth term of a sequence is 5n + 3.
Work out the 9th term of the sequence.

Put n = 9 into 5n + 3
5 × 9 + 3 = 48
Answer: 48

10 Probability of not getting a colour

A bag contains 5 blue beads, 3 black beads and 3 white beads.
One is taken at random.
Write down the probability that it is not black.

Number that are not black: 5 + 3 = 8
Total: 11
Probability = $\frac{8}{11}$

Answer: $\frac{8}{11}$