Day 332 **C Tier 10-a-day: Model Solutions**

1 Solving equations

Solve d + 14 = 28

Subtract 14 from both sides
d = 28 − 14 = 14
Answer: d = 14

2 Time conversions

Change
(a) 3 minutes into seconds
(b) 240 seconds into minutes

(a) 1 minutes = 60 seconds, so multiply by 60: 3 × 60 = 180
(b) 60 seconds = 1 minutes, so divide by 60: 240 ÷ 60 = 4
Answer: (a) 180 seconds (b) 4 minutes

3 Sharing in a ratio

Leah and Harry share 16 marbles in the ratio 1 : 3.
Work out how much each person gets.

Number of parts = 1 + 3 = 4
One part = 16 ÷ 4 = 4
Leah: 1 × 4 = 4 Harry: 3 × 4 = 12
Answer: Leah 4, Harry 12

4 Duration of a journey

A bus leaves at 4:50 pm and arrives at 7:05 pm.
How long does the journey take?

Count on from 4:50 pm to 7:05 pm:
10 minutes to 5:00 pm
2 hours to 7:00 pm
5 minutes to 7:05 pm
Total: 2 hours 15 minutes
Answer: 2 hours 15 minutes

5 Sequences

Here are the first four terms of a sequence.
20, 27, 34, 41
(a) Write down the next term.
(b) Write down the rule for finding the next term.

(a) The terms go up by 7 each time
Next term = 48
(b) Add 7 each time
Answer: (a) 48 (b) Add 7

6 Fractions, decimals and percentages

Write 25% as a decimal.

25% means 25 out of 100
25 ÷ 100 = 0.25
Answer: 0.25

7 Coordinates

ABCD is a rectangle.
A is the point (7, 7), B is the point (9, 7) and C is the point (9, 2).
Write down the coordinates of D.

AB is horizontal so D has the same x-coordinate as A: 7
BC is vertical so D has the same y-coordinate as C: 2
Answer: (7, 2)

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8 Travel graphs

The graph shows a journey. Tom walks from home to a shop and then back home.
(a) How far from home was the journey after 1 hour?
(b) Work out the total distance travelled.

(a) Read up from 1 on the time axis: 8 km
(b) To the shop and back: 8 + 8 = 16
Answer: (a) 8 km (b) 16 km

9 Timetables

The table shows the times of two buses.
How many minutes does Bus 1 take to go from Ashby to Brook?

08:15 − 08:00
Count on from 08:00 to 08:15
Answer: 15 minutes

10 Perimeter from area

A rectangle has an area of 28 cm^2.
Its width is 2 cm.
Work out the perimeter of the rectangle.

Length = area ÷ width = 28 ÷ 2 = 14
Perimeter = 14 + 2 + 14 + 2 = 32
Answer: 32 cm