Day 301 **C Tier 10-a-day: Model Solutions**

1 Writing ratios

A bag has 13 red counters and 10 blue counters.
Write down the ratio of blue to red.

The ratio of blue to red is written 10 : 13
Answer: 10 : 13

2 Perimeter of a rectangle

The diagram shows a rectangle.
Work out the perimeter of the rectangle.
The diagram is not drawn accurately.

Add up all four sides
7 + 5 + 7 + 5 = 24
Answer: 24 m

3 Coordinates

Write down the coordinates of
(a) point F
(b) point E

Go across first (x), then up (y)
F is 3 across and 5 up
E is 5 across and 3 up
Answer: (a) (3, 5) (b) (5, 3)

4 Ordering decimals

Write these numbers in order, starting with the smallest.
0.7, 0.65, 0.75, 0.8

Write each with the same number of decimal places
0.65, 0.70, 0.75, 0.80
Answer: 0.65, 0.7, 0.75, 0.8

5 Missing side from area

A rectangular rug has an area of 15 m^2.
Its width is 3 m.
Work out its length.

Area = length × width
15 = length × 3
length = 15 ÷ 3 = 5
Answer: 5 m

6 Solving equations

Solve $\frac{d}{9} = 7$

$\frac{d}{9}$ means d ÷ 9, so multiply both sides by 9
d = 7 × 9 = 63
Answer: d = 63

7 Time

A concert starts at 8:00 pm.
It finishes at 9:30 pm.
How long does it last?

8:00 pm to 9:00 pm is 1 hour
9:00 pm to 9:30 pm is 30 minutes
Add the parts together
Answer: 1 hour 30 minutes

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8 Substitution into formulae

Use the formula F = 2a − 3b to work out the value of F when a = 9 and b = 4.

F = 2 × 9 − 3 × 4
= 18 − 12 = 6
Answer: F = 6

9 Travel graphs

The graph shows a journey. A bus travels 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: 30 km
(b) To the shop and back: 30 + 30 = 60
Answer: (a) 30 km (b) 60 km

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: 8 × 6 = 48
Small rectangle: 5 × 4 = 20
Shaded area: 48 − 20 = 28
Answer: 28 m^2