Day 261 **C Tier 10-a-day: Model Solutions**

1 Substitution

Work out the value of 6t when t = 4.

6t means 6 × t
6 × 4 = 24
Answer: 24

2 The mode

Here are the numbers of goals scored by a team in some matches.
2 0 6 4 2 2 0 5 1 3
Write down the mode.

The mode is the value that appears most often
2 appears 3 times
Answer: 2

3 Which expression

Which of these means x multiplied by itself?

$\frac{x}{6}$, x^2, x + 6, 6x

x × x is written x^2
Answer: x^2

4 Duration of a journey

A train leaves at 3:25 pm and arrives at 5:45 pm.
How long does the journey take?

Count on from 3:25 pm to 5:45 pm:
35 minutes to 4:00 pm
1 hour to 5:00 pm
45 minutes to 5:45 pm
Total: 2 hours 20 minutes
Answer: 2 hours 20 minutes

5 Negative numbers: temperature

The temperature is 1°C.
It falls by 8°C.
What is the new temperature?

1 − 8 = −7
Answer: −7°C

6 Reflection on a grid

The point P is drawn on the grid.
P is reflected in the line x = 4.
Write down the coordinates of the image of P.

P is (1, 4)
P is 3 squares to the left of the line, so the image is 3 squares to the right
x-coordinate: 4 + 3 = 7
Answer: (7, 4)

7 Coordinates

Here are three points.
(0, 7), (5, 0), (7, 5)
Which point lies on the y-axis?

A point on the y-axis has x-coordinate 0
Answer: (0, 7)

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8 Pie chart angles

30 students were asked about their favourite subject.
7 of them chose science.
The results are shown in a pie chart.
Work out the angle of the sector for those students.

360° ÷ 30 = 12° for each student
7 × 12° = 84°
Answer: 84°

9 Money: change

Lola buys lunch for £4.90.
Lola pays with a £10 note.
How much change does Lola get?

Change = £10 − £4.90
1000p − 490p = £5.10
Answer: £5.10

10 Finding a missing value from the mean

The mean of three numbers is 5.
Two of the numbers are 4 and 2.
Work out the other number.

Total of all the numbers: 5 × 3 = 15
Total of those given: 4 + 2 = 6
15 − 6 = 9
Answer: 9