Day 22 **C Tier 10-a-day: Model Solutions**

1 The median

Here are the shoe sizes of some students.
9 8 5 7 4 6 9 7 8
Work out the median.

Put the numbers in order: 4 5 6 7 7 8 8 9 9
The middle number is 7
Answer: 7

2 Writing expressions

Simplify 9 × c

Write the number first, then the letters in alphabetical order, with no × signs
Answer: 9c

3 Subtraction

Work out 851 − 598.

851 − 598 = 253
Answer: 253

4 The range

Here are the numbers of goals scored by a team in some matches.
5 0 1 4 5 3
Work out the range.

Range = largest value − smallest value
5 − 0 = 5
Answer: 5

5 Lines of symmetry

Write down the number of lines of symmetry of
(a) an equilateral triangle
(b) a regular heptagon

(a) An equilateral triangle has 3 lines of symmetry
(b) A regular heptagon has 7 lines of symmetry
Answer: (a) 3 (b) 7

6 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 = 3.

(a) Find 1 in the top row; the number underneath is 8
(b) Find 3 in the bottom row; the number above is 0
Answer: (a) 8 (b) 0

7 Angles between clock hands

Work out the smaller angle between the hour hand and the minute hand of a clock at 3 o'clock.

There are 12 hours round a clock, so each hour is 360 ÷ 12 = 30°
At 3 o'clock the hands are 3 hours apart (going the short way: 3)
3 × 30 = 90
Answer: 90°

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8 Time

A party starts at 2:10 pm.
It finishes at 3:50 pm.
How long does it last?

2:10 pm to 3:00 pm is 50 minutes
3:00 pm to 3:50 pm is 50 minutes
Add the parts together
Answer: 1 hour 40 minutes

9 Substitution

Work out the value of 2(x + 3) when x = 8.

Brackets first: 8 + 3 = 11
2 × 11 = 22
Answer: 22

10 Negative numbers: temperature

The temperature is 6°C.
It falls by 9°C.
What is the new temperature?

6 − 9 = −3
Answer: −3°C