Day 9 **C Tier 10-a-day: Model Solutions**

1 The median

Here are the marks in a test.
7 14 16 9 12 9 18 16 14
Work out the median.

Put the numbers in order: 7 9 9 12 14 14 16 16 18
The middle number is 14
Answer: 14

2 Choosing units

Which unit is best for measuring the capacity of a swimming pool?
Choose from: ml, litres

A pool holds thousands of litres
So the best unit is litres
Answer: litres

3 Rounding decimals

Round 58.9 to the nearest whole number.

Look at the first decimal digit, which is 9
9 is 5 or more, so round up
Answer: 59

4 Perimeter and area of a square

A square playground has sides of length 5 cm.
(a) Work out its perimeter.
(b) Work out its area.

(a) A square has 4 equal sides: $4 \times 5 = 20$
(b) Area = side × side: $5 \times 5 = 25$
Answer: (a) 20 cm (b) 25 cm^2

5 Tables of values

The table shows some values of x and y.
(a) Write down the value of y when x = 4.
(b) Write down the value of x when y = 9.

(a) Find 4 in the top row; the number underneath is 21
(b) Find 9 in the bottom row; the number above is 1
Answer: (a) 21 (b) 1

6 Negative numbers

Work out $-4 - 4$.

Use a number line
$-4 - 4 = -8$
Answer: -8

7 Using formulae

The perimeter, P cm, of a square with side length s cm is given by the formula P = 4s.
(a) Work out the value of P when s = 7.
(b) Work out the value of s when P = 16.

(a) $P = 4 \times 7 = 28$
(b) $4s = 16$, so $s = 16 \div 4 = 4$
Answer: (a) P = 28 (b) s = 4

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8 Ordering fractions

Write these fractions in order, starting with the largest.

$\frac{2}{10}, \frac{8}{10}, \frac{7}{10}$

The denominators are all 10, so compare the numerators
8, 7, 2 (numerators in order)

Answer: $\mathbf{\frac{8}{10}, \frac{7}{10}, \frac{2}{10}}$

9 Counting outcomes

A café has 5 sandwiches and 4 drinks.
A lunch deal is one sandwich and one drink.
How many different choices are there?

5 × 4 = 20

Answer: 20

10 Simplifying expressions

Simplify 7b + y + 3y + 5b

Collect the b terms: 7 + 5 = 12b
Collect the y terms: 1 + 3 = 4y

Answer: 12b + 4y