Day 192 **C Tier 10-a-day: Model Solutions**

1 Bar charts

The bar chart shows the types of film some people watched.
Which bar shows the mode?

The tallest bar is Drama, with 18
Answer: Drama

2 Angles in a right angle

A right angle is split into two angles by a line.
Work out the size of angle a.
The diagram is not drawn accurately.

The square corner is a right angle, which is 90°
90 − 50 = 40
Answer: a = 40°

3 Rounding decimals

Round 98.7 to the nearest whole number.

Look at the first decimal digit, which is 7
7 is 5 or more, so round up
Answer: 99

4 The median of an even number of values

Here are the ages of some children.
13 6 13 11
Work out the median.

Put the numbers in order: 6 11 13 13
The middle two numbers are 11 and 13
Halfway between them: (11 + 13) ÷ 2 = 12
Answer: 12

5 Sequences

Here are the first four terms of a sequence.
4, 3, 7, 10
Each term is found by adding the two terms before it.
Write down the next two terms.

7 + 10 = 17
10 + 17 = 27
Answer: 17, 27

6 Powers

Work out 10^2.

$10^2 = 10 \times 10$
$= 100$
Answer: 100

7 Sampling

Tom wants to find out what music people in a town like.
Tom asks only people at a rock concert.
Give a reason why this sample may be biased.

People at a rock concert are more likely to like rock music
Answer: People at a rock concert are more likely to like rock music

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8 Simplifying fractions

Write $\frac{16}{28}$ in its simplest form.

Divide the top and bottom by 4

$\frac{16}{28} = \frac{4}{7}$

Answer: $\frac{4}{7}$

9 Volume and surface area of a cube

A cube has sides of length 6 m.
(a) Work out the volume of the cube.
(b) Work out the total surface area of the cube.

(a) Volume = 6 × 6 × 6 = 216
(b) Each face is a square of area 6 × 6 = 36
A cube has 6 faces: 6 × 36 = 216

Answer: (a) 216 m^3 (b) 216 m^2

10 Expressions for perimeter

A triangle has sides of length d cm, d cm and 3 cm.
Write an expression for the perimeter of the shape.
Give your answer in its simplest form.

Perimeter = d + d + 3
= 2d + 3

Answer: 2d + 3 cm