Day 16 **C Tier 10-a-day: Model Solutions**

1 Faces, edges and vertices

How many faces does a pentagonal prism have?

A pentagonal prism: 2 ends plus 5 sides: 2 + 5 = 7

Answer: 7

2 Fractions of a shape

What fraction of the shape is shaded?

There are 6 equal parts

5 parts are shaded

Fraction shaded = $\frac{5}{6}$

Answer: $\frac{5}{6}$

3 Length conversions

Change 0.5 cm into mm.

1 cm = 10 mm, so multiply by 10: 0.5 × 10 = 5

Answer: 5 mm

4 Solving equations

Solve $\frac{m}{8} = 2$

$\frac{m}{8}$ means m ÷ 8, so multiply both sides by 8

m = 2 × 8 = 16

Answer: m = 16

5 Division with remainders

47 marbles are shared equally between 6 children.

(a) How many does each child get?

(b) How many are left over?

47 ÷ 6 = 7 remainder 5

Answer: (a) 7 (b) 5

6 Coordinates

Write down the coordinates of

(a) point H

(b) point D

Go across first (x), then up (y)

H is 7 across and 2 up

D is 1 across and 2 up

Answer: (a) (7, 2) (b) (1, 2)

7 Venn diagrams

Some students were asked whether they like maths or science.

The Venn diagram shows the results.

How many students were asked altogether?

Add all four numbers: 2 + 5 + 7 + 7 = 21

Answer: 21

8 Rounding decimals

Round 13.3 to the nearest whole number.

Look at the first decimal digit, which is 3

3 is less than 5, so round down

Answer: 13

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9 Probability of not getting a colour

A bag contains 3 yellow marbles, 5 black marbles and 6 green marbles.
One is taken at random.
Write down the probability that it is not yellow.

Number that are not yellow: 5 + 6 = 11
Total: 14

Probability = $\frac{11}{14}$

Answer: $\mathbf{\frac{11}{14}}$

10 Substitution

Work out the value of 3z when z = −2.

3 × (−2) = −6

Answer: −6