Day 333 **C Tier 10-a-day: Model Solutions**

1 Probability words

Choose a word from the list to describe the probability of the event.
A bag contains 0 red counters and 5 blue counters. Without looking, a counter is taken. It is blue.
impossible, unlikely, even chance, likely, certain

5 of the 5 counters are blue
So the event is certain
Answer: certain

2 Money: wages

Amy earns £6 for each hour of work.
Amy works for 5 hours.
How much does Amy earn?

£6 × 5 = £30
Answer: £30

3 Fractions of a group

Sam answers 10 questions and gets 6 correct.
What fraction of the questions did Sam get correct? Give your answer in its simplest form.

$\frac{6}{10}$

Divide top and bottom by 2: $\frac{3}{5}$

Answer: $\frac{3}{5}$

4 Sequences

Here are the first four terms of a sequence.
5, 16, 27, 38
(a) Write down the next term.
(b) Write down the rule for finding the next term.

(a) The terms go up by 11 each time
Next term = 49
(b) Add 11 each time
Answer: (a) 49 (b) Add 11

5 Vertically opposite angles

The diagram shows two straight lines crossing.
(a) Work out the size of angle x.
(b) Work out the size of angle a.
The diagram is not drawn accurately.

(a) Vertically opposite angles are equal
x = 70°
(b) Angles on a straight line add up to 180°
180 − 70 = 110
Answer: (a) x = 70° (b) a = 110°

6 Estimation

Estimate the value of 57 + 31 by rounding each number to the nearest 10.

57 rounds to 60 and 31 rounds to 30
60 + 30 = 90
Answer: 90

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7 Volume of a cuboid

The diagram shows a cuboid.
Work out the volume of the cuboid.
The diagram is not drawn accurately.

Volume = length × width × height
5 × 5 × 4
5 × 5 = 25, then 25 × 4 = 100
Answer: 100 cm^3

8 Relative frequency

A spinner is spun 100 times and lands on red 33 times.
Estimate the probability that it lands on red next time.
Give your answer as a fraction in its simplest form.

Relative frequency = $\frac{33}{100}$

Answer: $\frac{33}{100}$

9 The nth term

The nth term of a sequence is n + 2.
Work out the 5th term of the sequence.

Put n = 5 into n + 2
5 + 2 = 7
Answer: 7

10 Cost from perimeter

A rectangular pond is 12 m long and 3 m wide.
Edging costs £10 per metre.
Work out the cost of putting edging all the way round the pond.

Perimeter = 12 + 3 + 12 + 3 = 30 m
Cost = 30 × £10 = £300
Answer: £300