Day 180 **C Tier 10-a-day: Model Solutions**

1 Coordinates

(a) Write down the coordinates of point R.
(b) Which point has coordinates (−3, −3)?

(a) R is right 1 and up 3
(b) Go left 3 and down 3: this is point H
Answer: (a) (1, 3) (b) H

2 Vertically opposite angles

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

Vertically opposite angles are equal
a = 130°
Answer: a = 130°

3 Ordering numbers

Write these numbers in order, starting with the largest.
134, 841, 843, 469

Compare the hundreds digits first, then the tens
843, 841, 469, 134
Answer: 843, 841, 469, 134

4 Sequences

Here are the first four terms of a sequence.
42, 33, 24, 15
(a) Write down the next term.
(b) Write down the rule for finding the next term.

(a) The terms go down by 9 each time
Next term = 6
(b) Subtract 9 each time
Answer: (a) 6 (b) Subtract 9

5 Cost of one item

5 cartons cost £4.50.
Work out the cost of one carton.

450p ÷ 5 = 90p
Answer: 90p

6 Map scales

On a map, 1 cm represents 5 km.
Two towns are 60 km apart in real life.
How far apart are they on the map?

1 cm represents 5 km
60 ÷ 5 = 12
Answer: 12 cm

7 Scatter graphs

Here is a scatter graph of arm span against height.
Describe the correlation.

As height increases, arm span also increases
This is positive correlation
Answer: Positive correlation

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8 Equivalent fractions

Find the missing number.

$\frac{2}{5} = \frac{?}{20}$

5 × 4 = 20, so multiply the top by 4 as well

2 × 4 = 8

Answer: 8

9 Circles with an approximate pi

A circle has a diameter of 4 cm.

Work out its circumference.

Use π = 3.14

Circumference = π × diameter

3.14 × 4 = 12.56

Answer: 12.56 cm

10 Substitution

Work out the value of 4a when a = −5.

4 × (−5) = −20

Answer: −20