Day 217 **C Tier 10-a-day: Model Solutions**

1 Collecting like terms

Simplify b + b + b

All the terms are in b, so just add or subtract the numbers in front of b

Answer: 3b

2 Angles in a right angle

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

The square corner is a right angle, which is 90°
90 − 60 = 30

Answer: a = 30°

3 Number sequences

Here is a number sequence.
36, 31, 26, 21, ...
Write down the next two numbers.

The sequence goes down by 5 each time
21 − 5 = 16, 16 − 5 = 11

Answer: 16, 11

4 Solving equations

Solve p + 8 = 10

Subtract 8 from both sides
p = 10 − 8 = 2

Answer: p = 2

5 Types of angle

Write down the type of each angle.
Choose from: acute, right, obtuse, reflex.
(a) 260°
(b) 55°

(a) 260° is more than 180°, so it is reflex
(b) 55° is less than 90°, so it is acute

Answer: (a) reflex (b) acute

6 Scatter graphs

Here is a scatter graph of test mark against hair length.
Describe the correlation.

There is no clear pattern in the points
This is no correlation

Answer: No correlation

7 Ordering fractions

Write these fractions in order, starting with the smallest.

$\frac{2}{8}, \frac{7}{8}, \frac{1}{8}$

The denominators are all 8, so compare the numerators
1, 2, 7 (numerators in order)

Answer: $\frac{1}{8}, \frac{2}{8}, \frac{7}{8}$

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8 Perimeter of an L-shape

The diagram shows an L-shape.
All the corners are right angles.
Work out the perimeter of the shape.
The diagram is not drawn accurately.

Find the two missing sides.
Missing horizontal side: 14 − 9 = 5
Missing vertical side: 8 − 6 = 2
Add all six sides: 14 + 6 + 5 + 2 + 9 + 8 = 44
Answer: 44 cm

9 Sharing in a ratio

Leah and Harry share £32 in the ratio 1 : 3.
Work out how much each person gets.

Number of parts = 1 + 3 = 4
One part = 32 ÷ 4 = 8
Leah: 1 × 8 = 8 Harry: 3 × 8 = 24
Answer: Leah £8, Harry £24

10 Substitution

Work out the value of 19 − x when x = 12.

19 − 12 = 7
Answer: 7