Day 3 **C Tier 10-a-day: Model Solutions**

1 Even and odd numbers

Write down all the even numbers in this list.
49, 27, 75, 91, 85

Even numbers end in 0, 2, 4, 6 or 8
Answer: There are none

2 Perimeter and area of a square

A square playground has sides of length 8 cm.
(a) Work out its perimeter.
(b) Work out its area.

(a) A square has 4 equal sides: 4 × 8 = 32
(b) Area = side × side: 8 × 8 = 64
Answer: (a) 32 cm (b) 64 cm^2

3 Scaling a recipe

A recipe for pancakes for 5 people uses 275 g of rice.
Work out how much rice is needed for 10 people.

10 people is 2 times as many as 5 people
275 × 2 = 550
Answer: 550 g

4 Division with remainders

22 cards are shared equally between 6 children.
(a) How many does each child get?
(b) How many are left over?

22 ÷ 6 = 3 remainder 4
Answer: (a) 3 (b) 4

5 Cost of one item

6 tickets cost £2.70.
Work out the cost of one ticket.

270p ÷ 6 = 45p
Answer: 45p

6 Substitution

p = 9 and z = 4
Work out the value of
(a) p + z
(b) 2p + z

(a) 9 + 4 = 13
(b) 2 × 9 + 4 = 22
Answer: (a) 13 (b) 22

7 Powers

Write 5 × 5 as a power of 5.

5 is multiplied by itself 2 times
Answer: 5^2

8 Coordinates

(a) Write down the coordinates of point Q.
(b) Which point has coordinates (−1, 1)?

(a) Q is right 1 and down 1
(b) Go left 1 and up 1: this is point G
Answer: (a) (1, −1) (b) G

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9 Volume and surface area of a cube

A cube has sides of length 9 m.
(a) Work out the volume of the cube.
(b) Work out the total surface area of the cube.

(a) Volume = 9 × 9 × 9 = 729
(b) Each face is a square of area 9 × 9 = 81
A cube has 6 faces: 6 × 81 = 486

Answer: (a) 729 m^3 (b) 486 m^2

10 Pie chart angles

90 students were asked about their favourite fruit.
9 of them chose bananas.
The results are shown in a pie chart.
Work out the angle of the sector for those students.

360° ÷ 90 = 4° for each student
9 × 4° = 36°

Answer: 36°