Day 270 **C Tier 10-a-day: Model Solutions**

1 Even and odd numbers

Write down all the odd numbers in this list.
45, 17, 34, 38, 33

Odd numbers end in 1, 3, 5, 7 or 9
Answer: 45, 17, 33

2 Time conversions

Change 5 days into hours.

1 days = 24 hours, so multiply by 24: 5 × 24 = 120
Answer: 120 hours

3 Cost of one item

5 tickets cost £1.50.
Work out the cost of one ticket.

150p ÷ 5 = 30p
Answer: 30p

4 24-hour clock

Write 10:20 pm using the 24-hour clock.

Add 12 to the hour for pm times
22:20
Answer: 22:20

5 Counting outcomes

A café has 6 sandwiches and 3 drinks.
A lunch deal is one sandwich and one drink.
How many different choices are there?

6 × 3 = 18
Answer: 18

6 Pattern sequences

Matchsticks are used to make a pattern of squares.
The diagram shows the first three patterns.
How many matchsticks are needed for
(a) Pattern 6
(b) Pattern 9

Pattern 1, 2, 3 have 4, 7, 10 matchsticks
Each pattern has 3 more matchsticks than the one before
Pattern 6: 4 + 3 × 5 = 19
Pattern 9: 4 + 3 × 8 = 28
Answer: (a) 19 (b) 28

7 Multiplying multiples of 10

Work out 400 × 50.

Work out 4 × 5 = 20
Then put the zeros back on
Answer: 20000

8 Using formulae

The cost, C pounds, of n tickets is given by the formula C = 7n.
(a) Work out the value of C when n = 8.
(b) Work out the value of n when C = 42.

(a) C = 7 × 8 = 56
(b) 7n = 42, so n = 42 ÷ 7 = 6
Answer: (a) C = 56 (b) n = 6

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9 Perimeter from area

A rectangular room has an area of 70 cm^2.
Its width is 5 cm.
Work out the perimeter of the room.

Length = area ÷ width = 70 ÷ 5 = 14
Perimeter = 14 + 5 + 14 + 5 = 38
Answer: 38 cm

10 Probability from a bag

A bag contains 1 green and 7 yellow counters.
One is taken at random.
Write down the probability that it is yellow.

There are 8 in total, and 7 are yellow
Probability = $\frac{7}{8}$
Answer: $\frac{7}{8}$