GCSE HIGHER · REVISION MAT 2

Counting strategies

1 Two coins are flipped.

List all the possible outcomes.

2 Kai has 4 shirts, 3 pairs of trousers and 2 pairs of shoes.

How many different outfits can he make?

3 Explain why choosing 2 people from 4 gives 6 pairs, not 12.

4 A password has 3 letters (A–Z) followed by 2 digits.

How many passwords are possible?

5 Show that 24 three-digit numbers can be made from 2, 5, 7 and 9 without repeating digits.

6 A captain and a vice-captain are chosen from 12 players.

In how many ways can this be done?

7 Show that there are 120 ways to line up 5 people.

8 How many even numbers between 300 and 600 have three different digits?

Mr&Mrs MATHS

ANSWERS · REVISION MAT 2

Counting strategies

1 **HH, HT, TH, TT**

2 4 × 3 × 2

24

3 4 × 3 = 12 counts each pair twice (AB and BA).

12 ÷ 2 = 6

4 $26^3 \times 10^2$

1 757 600

5 4 × 3 × 2

= 24

6 12 × 11

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7 5 × 4 × 3 × 2 × 1

= 120

8 3__: 5 × 8 = 40

4__: 4 × 8 = 32

5__: 5 × 8 = 40

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