GCSE HIGHER · REVISION MAT 1

Counting strategies

1 A café offers soup or salad as a starter, and fish, pasta or curry as a main.

List all the possible meals.

2 How many 3-digit codes can be made using the digits 0 to 9?

Digits may repeat.

3 Explain why there are 6 ways to arrange the letters A, B and C.

4 A PIN has 4 digits.

The first digit cannot be 0.

How many PINs are possible?

5 Show that there are 24 ways to arrange 4 different books on a shelf.

6 A number plate has 2 letters followed by 3 digits.

How many different plates are possible?

7 Show that 20 two-letter codes can be made from the letters A to E if the letters must be different.

8 How many 4-digit odd numbers can be made from 1, 2, 3, 4, 5, 6 without repeating digits?

Mr&Mrs MATHS

ANSWERS · REVISION MAT 1

Counting strategies

1 **SF, SP, SC, LF, LP, LC: 6 meals**

2 10 × 10 × 10

1000

3 3 choices, then 2, then 1

3 × 2 × 1 = 6

4 9 × 10 × 10 × 10

9000

5 4 × 3 × 2 × 1

= 24

6 26 × 26 × 10 × 10 × 10

676 000

7 5 × 4

= 20

8 Last digit: 3 choices (1, 3, 5)

Others: 5 × 4 × 3 = 60

3 × 60 = 180