GCSE FOUNDATION · REVISION MAT 2

Listing and the product rule

1 A café offers a drink and a breakfast.

Drinks: Juice, Tea
Breakfasts: Toast, Eggs, Waffles

List all the possible combinations.

2 Here are three digit cards: 2, 6, 9

Two cards are used to make a 2-digit number.

List all the numbers that can be made.

3 A café sells 5 tops and 4 skirts.

A outfit is one of each.

Tara says there are 9 different outfits.

Explain why Tara is wrong.

4 Show that the letters of the word STAR can be arranged in 24 different orders.

5 A padlock code uses 4 digits. Each digit is 0 to 9.

(a) How many different codes are there?

(b) How many codes are there if the first digit must be odd?

6 Two people are chosen from Fay, Gus, Hal and Ivy to be team captains.

List all the possible pairs.

How many pairs are there?

ANSWERS · REVISION MAT 2

Listing and the product rule

1 Juice–Toast, Juice–Eggs, Juice–Waffles
Tea–Toast, Tea–Eggs, Tea–Waffles

6 combinations

2 **26, 29, 62, 69, 92, 96**

(6 numbers)

3 Each of the 5 tops can go with each of the 4 skirts.

5 × 4 = **20** outfits, not 9

4 4 × 3 × 2 × 1 = 24 ✓

4 choices for the first letter, then 3, then 2, then 1.

5 (a) 10 × 10 × 10 × 10 = **10,000**

(b) 5 × 10 × 10 × 10 = **5,000**

6 Fay & Gus, Fay & Hal, Fay & Ivy, Gus & Hal, Gus & Ivy, Hal & Ivy

6 pairs