GCSE FOUNDATION · REVISION MAT 3

Listing and the product rule

1 A café offers a colour and a size.

Colours: Red, Blue
Sizes: Small, Medium, Large

List all the possible combinations.

2 Here are three digit cards: 1, 4, 7

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

List all the numbers that can be made.

3 A café sells 6 pizzas and 3 sides.

A combo is one of each.

Uri says there are 9 different combos.

Explain why Uri is wrong.

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

5 A padlock code uses 3 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 even?

6 Two people are chosen from Jay, Kim, Lee, Mo, Nat and Ola to be team captains.

List all the possible pairs.

How many pairs are there?

Mr&Mrs MATHS

ANSWERS · REVISION MAT 3

Listing and the product rule

1 Red–Small, Red–Medium, Red–Large
Blue–Small, Blue–Medium, Blue–Large

6 combinations

2 **14, 17, 41, 47, 71, 74**

(6 numbers)

3 Each of the 6 pizzas can go with each of the 3 sides.

6 × 3 = **18** combos, 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 = **1,000**

(b) 5 × 10 × 10 = **500**

6 Jay & Kim, Jay & Lee, Jay & Mo, Jay & Nat, Jay & Ola, Kim & Lee, Kim & Mo, Kim & Nat, Kim & Ola, Lee & Mo, Lee & Nat, Lee & Ola, Mo & Nat, Mo & Ola, Nat & Ola

15 pairs

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