

Systematic Listing

For AQA GCSE Mathematics (8300) • Foundation tier

Name _____

Total marks: **23**

Answer **all** questions in the spaces provided. Show your working: marks are given for correct method.

1 Amy (A), Ben (B) and Cara (C) stand in a line for a photo.

List all the possible orders.
One has been done for you.

Left	Middle	Right
A	B	C

[2 marks]

- 2** Priya decorates a mug.
She chooses one colour
yellow (Y) or green (G)
and one pattern
spots (S) or stripes (T) or zigzags (Z)
- (a) List all the possible mugs Priya could make.
One has been done for you.

Colour	Pattern
Y	S

[2 marks]

- (b) What fraction of the possible mugs do **not** have spots?

[1 mark]

Answer _____

- 3** A pizza has two **different** toppings.
The toppings are chosen from
ham (H) olives (O) peppers (P) sweetcorn (S)
- List all the possible pairs of toppings.

[2 marks]

- 4** A garden centre sells plant pots in three sizes.

small £3 medium £5 large £8

Freya buys two pots.

The two pots can be the same size or different sizes.

Work out all the possible total costs.

[2 marks]

Answer _____

- 5** Ria answers three true-or-false questions in a quiz.

She answers each question True (T) or False (F).

List all the possible ways she could answer the three questions.

[2 marks]

- 6 Sam has three number cards.

3

5

8

He uses all three cards to make a 3-digit number.

- (a) How many different numbers can Sam make?

[2 marks]

Answer _____

- (b) How many of these numbers are even?

[1 mark]

Answer _____

- 7 Two spinners are spun.
One spinner is labelled Red and Blue.
The other spinner is labelled 1, 2, 3 and 4
Pip says,
‘There are 6 possible outcomes.’

Is Pip correct? Tick a box.
Give a reason for your answer.

[1 mark]

☐ Yes ☐ No

- 8 Zak has three coins: 5p, 10p and 20p
He picks two of the coins.

Write down all the possible total amounts of money.

[2 marks]

Answer _____

- 9 Chloe makes a fruit salad.
She chooses three **different** fruits from
apple (A) banana (B) cherries (C) grapes (G)

List all the possible options for the three fruits.
The first one has been done for you.

Fruit	Fruit	Fruit
A	B	C

[2 marks]

- 10** Dev (D), Erin (E), Fay (F) and Gus (G) run a relay race as a team.
Each of them runs one leg of the race.
Gus will run the **last** leg.

List all the possible orders in which they could run.

[2 marks]

- 11** Ben is thinking of a 2-digit number.
Both digits are odd.
The two digits are different.
The number is greater than 50
The number is a multiple of 3

List all the possible numbers.

[2 marks]

Answer _____