Systematic Listing

Grade 2 topic · Foundation and Higher · Edexcel and AQA

How to use this pack
20 questions that get harder as you go. Foundation students: aim for Questions 1–15 (35 marks) and have a go at the rest. Higher students: complete all 20. Show your working on the lines and write your final answer on the answer line, then mark yourself with the answers at the back. Diagrams are not drawn accurately. Total: 55 marks.

Warm-up

1 A coin is flipped and a dice is rolled. List all the possible outcomes. **[2 marks]**

Answer _____

2 Write down all the 2-digit numbers that can be made using the digits 1, 2 and 3 (digits can repeat). **[2 marks]**

Answer _____

3 Write down all the ways to arrange the letters A, B and C. **[2 marks]**

Answer _____

4 Two coins are flipped. List all the possible outcomes. **[2 marks]**

Answer _____

5 List all the pairs of numbers from 1, 2, 3 and 4 with a total of 5. **[2 marks]**

Answer _____

Core

6 A pizza has 4 base choices and 5 topping choices. A customer chooses one of each. How many different pizzas are possible? **[2 marks]**

Answer _____

7 A café has 5 starters and 5 main courses. How many different meals of one starter and one main course are there? **[2 marks]**

Answer _____

8 A pizza has 3 base choices and 3 topping choices. A customer chooses one of each. How many different pizzas are possible? **[2 marks]**

Answer _____

9 A café has 2 starters and 5 main courses. How many different meals of one starter and one main course are there? **[2 marks]**

Answer _____

10 A pizza has 5 base choices and 6 topping choices. A customer chooses one of each. How many different pizzas are possible? **[2 marks]**

Answer _____

Stretch

11 How many different 3-digit numbers can be made from the digits 4, 3 and 6, using each digit once? **[3 marks]**

Answer _____

12 A meal has 2 starters, 2 mains and 2 desserts. How many different 3-course meals are there? **[3 marks]**

Answer _____

13 How many different 2-digit numbers can be made from the digits 1, 7, 5 and 6 using each digit at most once? **[3 marks]**

Answer _____

14 How many different ways can 3 people from a group of 5 be chosen for first, second and third place? **[3 marks]**

Answer _____

15 A PIN has 6 digits, each from 0 to 9. How many possible PINs are there? **[3 marks]**

Answer _____

Challenge

16 How many different 4-letter arrangements are there of the letters A, B, C and D? **[4 marks]**

Answer _____

17 How many 3-digit numbers can be made from the digits 1, 2, 3, 4 and 5 if digits cannot be repeated? **[4 marks]**

Answer _____

18 How many different 3-digit numbers can be made using the digits 1, 2, 3, 4 (digits can repeat) that are even? **[4 marks]**

Answer _____

19 Two dice are rolled. How many outcomes have a total of 8? **[4 marks]**

Answer _____

20 How many ways can 2 people be chosen from a group of 6? (the order does not matter) **[4 marks]**

Answer _____