1 Andrew is going to have a meal.
He can choose one starter and one main from the menu.

Menu

Starter	**Main**
Soup	Pasta
Dough Balls	Pizza
Garlic Bread	Salad

Write down all the possible combinations Andrew can choose.

(Total for question 1 is 2 marks)

2 William is going to roll a 6 sided dice and flip a coin.
The dice can land on 1, 2, 3, 4, 5 or 6.
The coin can land on heads or tails.

List all the possible outcomes.

(Total for question 2 is 2 marks)

3 George is going to flip a coin three times.
List all the possible outcomes.

(Total for question 3 is 2 marks)

4 Charlotte has to choose which subjects she wants to study.
She can choose one humanity and one language from the options.

Options

Humanities	**Languages**
History	French
Geography	German
	Spanish

Write down all the possible combinations Charlotte can choose.

(Total for question 4 is 2 marks)

5 Archie is going to roll two 6-sided dice.
Each dice can land on 1, 2, 3, 4, 5 or 6.

(a) List all the possible outcomes.

Archie adds up the two numbers to get a total score.

(b) Work out the probability of Archie scoring more than 7.
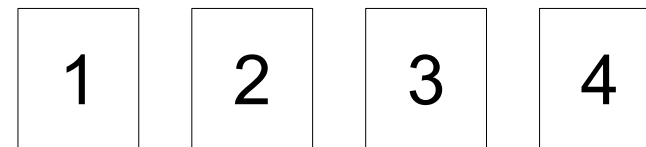
(Total for question 5 is 4 marks)

6 Here are three number cards

$$5 \quad 2 \quad 8$$

Write down all the possible **two-digit numbers** that can be made using the cards.

(Total for question 6 is 2 marks)

7 Here are four number cards

$$1 \quad 2 \quad 3 \quad 4$$

Write down all the possible **three-digit numbers** that can be made using the cards.

(Total for question 7 is 3 marks)

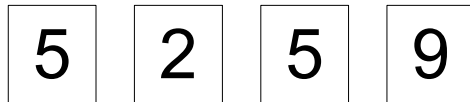| Grade 3 | Systematic Listing | Grade 3 |

8   Here are three number cards

| 9 | 5 | 7 |

Write down all the possible three-digit numbers that can be made using the cards.

(Total for question 8 is 2 marks)

9   Here are four number cards

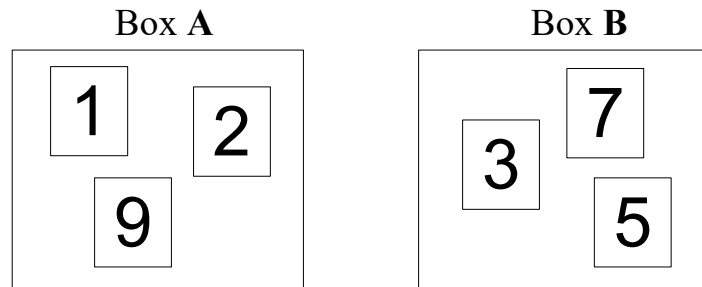| 5 | 2 | 5 | 9 |

Write down all the different possible four-digit numbers that can be made using the cards.

(Total for question 9 is 3 marks)

10   There are three cards in box A and three cards in box B.
There is a number on each card.

Box **A**

1 2 9

Box **B**

7 3 5

Charles takes a card from box A and a card from box B.
He multiplies the numbers on the two cards to get a total score.

Work out the probability that the total score is an odd number.

(Total for question 10 is 3 marks)

11   Four teams, Ajax, Barcelona, Chelsea and Dortmund, are each going to play a match against each other in a competition. Each team will play every other team once.
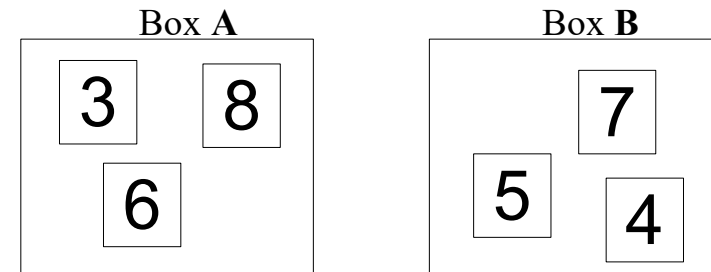
(a) Write down all the matches that will take place.   (2)

At the end of the competition, one team will be in first place, one will be in second place, one will be in third place and one will be in fourth place.

(b) List all the possible outcomes of the competition.   (3)

(Total for question 11 is 5 marks)

12   There are three cards in box A and three cards in box B.
There is a number on each card.

Box **A**

3 8 6

Box **B**

7 5 4

Harry takes a card from box A and a card from box B.

(a) Write down all the possible combinations of cards Harry can take.   (2)

Harry adds the numbers on the two cards to get a total score.

(b) Work out the probability that the total score is greater than 12.   (1)

(Total for question 12 is 3 marks)

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