Name: _____

GCSE (1 – 9)

Systematic Listing

Instructions

• Use **black** ink or ball-point pen.
• Answer all questions.
• Answer the questions in the spaces provided
– *there may be more space than you need.*
• Diagrams are **NOT** accurately drawn, unless otherwise indicated.
• You must **show all your working out.**

Information

• The marks for each question are shown in brackets
– *use this as a guide as to how much time to spend on each question.*

Advice

• Read each question carefully before you start to answer it.
• Keep an eye on the time.
• Try to answer every question.
• Check your answers if you have time at the end

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

<div style="border:1px solid black">

<u>Menu</u>

Starter   **Main**

Soup   Pasta
Dough Balls   Pizza
Garlic Bread   Salad

</div>

Write down all the possible combinations Andrew can choose.

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....

....

....

(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.

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(Total for question 2 is 2 marks)

3   George is going to flip a coin three times.

List all the possible outcomes.

....

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(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.

<div style="border:1px solid">

<u>Options</u>

Humanities   Languages

History   French
Geography   German
                       Spanish

</div>

Write down all the possible combinations Charlotte can choose.

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………

(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.

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………

………

(3)

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

(b) Work out the probability of Archie scoring more than 7.

…………………………

(1)

(Total for question 5 is 4 marks)

6 Here are three number cards

$$\boxed{5} \quad \boxed{2} \quad \boxed{8}$$
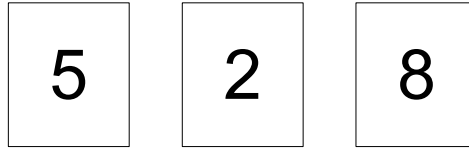
Write down all the possible **two-digit numbers** that can be made using the cards.

7 Here are four number cards

$$\boxed{1} \quad \boxed{2} \quad \boxed{3} \quad \boxed{4}$$
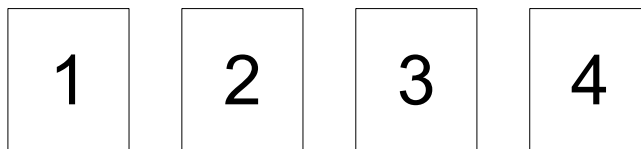
Write down all the possible **three-digit numbers** that can be made using the cards.

8　Here are three number cards

$$\boxed{9}\quad\boxed{5}\quad\boxed{7}$$
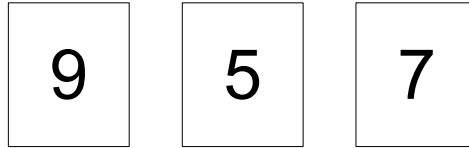
Write down all the possible three-digit numbers that can be made using the cards.

9　Here are four number cards

$$\boxed{5}\quad\boxed{2}\quad\boxed{5}\quad\boxed{9}$$
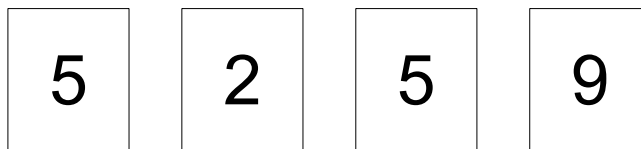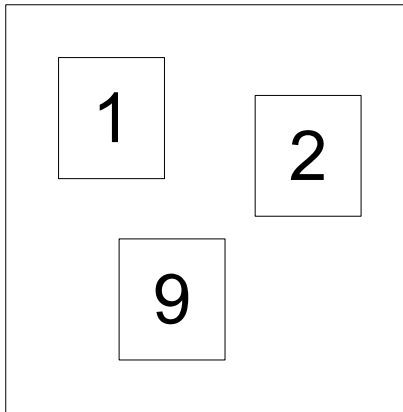
Write down all the different possible four-digit numbers that can be made using the cards.

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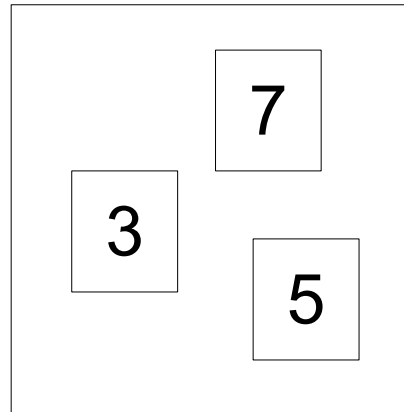
Charles takes a card from box A and a card from box B.
He multiplies the numbers on the two cards to get a total score.

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

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(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.

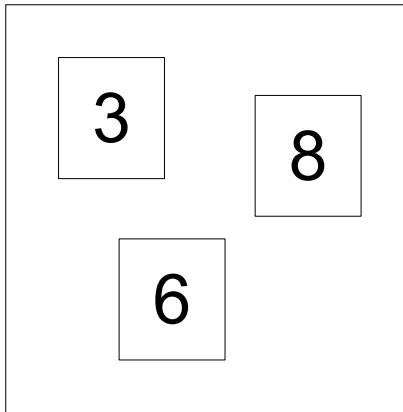(b) Use the table to list all the possible outcomes of the competition.

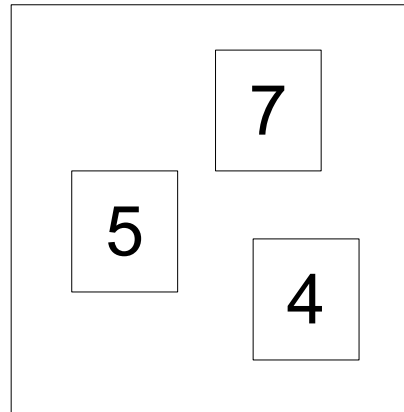| First Place	Second Place	Third Place	Fourth Place

(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)