

Probability - Sample Spaces and Two-Way Tables - Higher

For Pearson Edexcel GCSE Mathematics (1MA1) • Higher tier

Name _____

Total marks: **24**

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

1 Ivan rolls two fair six-sided dice.

(a) Work out the probability that the total of the two scores is 9

.....
(1)

(b) Work out the probability that at least one of the dice lands on 6

.....
(1)
(Total for Question 1 is 2 marks)

- 2 The two-way table shows information about the members of a club.

	Swimming	Tennis	Total
Male	18		40
Female		12	
Total			70

A member who plays tennis is chosen at random.
Work out the probability that this member is female.

.....
(4)

(Total for Question 2 is 4 marks)

3 Here are five number cards.

2	4	5	7	8
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Mateo takes three of the cards at random, one at a time.

He places them in a row, in the order he takes them, to make a 3-digit number.

(a) How many different 3-digit numbers can Mateo make?

.....
(1)

(b) Work out the probability that Mateo's number is odd **and** greater than 700

.....
(2)

(Total for Question 3 is 3 marks)

4 A florist makes posies.

Each posy contains exactly two different types of flower.

The florist wants to be able to make at least 30 different posies.

Work out the least number of types of flower she needs.

.....
(2)

(Total for Question 4 is 2 marks)

- 5** A bag contains 3 red, 4 blue and 5 green counters.
Two counters are taken at random without replacement.
Work out the probability that the counters are different colours.

.....
(4)

(Total for Question 5 is 4 marks)

- 6** 9 people volunteer to run a stall at a charity event.
5 of the volunteers have a first-aid certificate.
2 of the volunteers are chosen at random.
Work out the probability that at least one of the two volunteers chosen has a first-aid certificate.

.....
(3)

(Total for Question 6 is 3 marks)

- 7** A bag contains 4 yellow beads and 6 purple beads.
Tobias is going to take two beads at random from the bag.
Tobias says,
*“If I put the first bead back before I take the second bead, I
am more likely to get two purple beads than if I do not put it
back.”*
Is Tobias correct?
You must show how you get your answer.

(4)

(Total for Question 7 is 4 marks)

- 8** Two fair dice are rolled.
Given that the total is 8, find the probability that at least one dice shows a 6

.....
(2)

(Total for Question 8 is 2 marks)
