

AQA, OCR, Edexcel

GCSE

GCSE Maths

Probability Questions

Name:

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Total Marks: /25

Probability

1. There are 12 sections on a spinner, 4 are blue, 6 are red and 2 are green.

- a) What is the probability of it landing on green or blue? (2)
- b) If there are 200 selections, how many blues would you expect? (2)
- c) Out of 200 spins there were only 5 green. Suggest an explanation for this? (1)

(5 marks)

2. Ben flips an unbiased coin 3 times. He states that he is more likely to get heads, tails, heads, then all tails for the three flips. Is he correct? Explain your answer

(3 marks)

3. There are 10 counters in a bag, 6 are blue and 4 are yellow. Mary, Joe and Alice select a counter each. Mary goes first then Joe and finally Alice. Each time a counter is selected it is not replaced. Calculate the probability that:

(You may want to use a probability tree for all parts of this question)

- a) Mary, Joe and Alice all select Yellow counters (3)
- b) No blue counters are selected (1)
- c) That Mary selects a blue counter and the others get yellow (3)
- d) That there is at least 1 yellow counter left after all three selections (1)

(8 Marks)

4. Mark completes a survey which contains 3 questions. The answer to every question has to be yes or no. If there is a 60% chance of answering yes to each question, then calculate the probability that Mark:

(You may want to use a probability tree for the following questions)

- a) Answers yes to every question (2 marks)
- b) Answers no to at least two of the questions. (3 marks)
- c) Answers yes, no yes to the three questions. (2 marks)

(7 marks)

5. If the probability of getting an A is higher than that of achieving a B in Maths GCSE, and the probability of achieving less than a B is a $\frac{1}{2}$, give a possible probability for achieving an A? Explain your answer.

(2 marks)

6. There are x balls in a bag,

8 of the balls are blue

3 of the balls are green

The rest of the balls are orange and pink.

Jake takes two balls from the bag without replacing, the probability that he takes a blue then green ball is $\frac{1}{10}$. Find the total number of balls in the bag? **(Very Hard)**

(6 Marks)