

Name:

Date:

Probability Equations

GCSE

Edexcel
Mathematics
Grade (9-1)

Mark

Score (%)

<hr/> 50

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Materials

For this paper you must have:

- Ruler
- Pencil, Rubber, Protractor and Compass
- Scientific calculator, which you are expected to use when appropriate

Instructions

- Answer all questions
- Answer questions in the space provided
- All working must be shown
- Do all rough work in this book. Cross out any rough work you don't want to be marked

Information

- The marks for the questions are shown in brackets

- 1 There are x red counters and 3 blue counters in a bag.
Given that the probability of picking two red counters without replacing is $\frac{5}{14}$,
Find the number of red counter originally in the bag.

(Total for question 1 is 5 marks)

- 2 It is known that there are 5 blue counters and an unknown amount of yellow counters.
If the probability of picking two blue counters without replacing is $\frac{10}{21}$.
Find the number of yellow counters.

.....
(Total for question 2 is 5 marks)

- 3 The ratio of red and green counters is 3:1.
Given that the probability of getting two reds in two picks without replacement is $\frac{15}{28}$.

Find the number of counters in the bag.

.....
(Total for question 3 is 5 marks)

- 4 Pink and yellow beads are in the ratio of 4:1.
It is known that probability of getting both yellows in two picks without replacing is $\frac{1}{35}$.
Find the number of pink beads in the bag.

.....
(Total for question 4 is 5 marks)

- 5** Orange and Green Lolly sticks in a bag are in the ratio 3:1.
The probability of getting both green in two picks is $\frac{1}{20}$.

Find the number of green lollies.

.....
(Total for question 5 is 5 marks)

- 6 The number of boys and girls in a class is in the ratio of 2:1.
The probability of picking two boys from the class is $\frac{11}{24}$.

Find the number of students in the class.

.....
(Total for question 6 is 5 marks)

7 There are n counters in a bag.

5 of the counters are white.

Sally is to pick 2 counters from the bag without replacing.

Given that the probability of both being white is $\frac{2}{3}$, find n .

.....
(Total for question 7 is 5 marks)

8 James randomly selects a disc from a bag, he then replaces it and picks another one.

There are only white and black discs in the bag.

They are in the ratio of 3:2.

The probability of picking white in both cases is $\frac{9}{25}$.

Find the number of black discs in the bag.

.....
(Total for question 8 is 5 marks)

9 A bag has only red and blue sweets.

The ratio of red sweets to blue sweets is 2:1.

The probability of Ahmed eating two sweets of different colours is $\frac{1}{2}$.

Find the number of blue sweets originally in the bag.

.....
(Total for question 9 is 5 marks)

10 A bag has only orange and yellow balloons.

Orange and yellow balloons in a packet are in the ratio of 1:5.
After adding 12 more orange balloon the ratio become 1:1.

How many orange balloon were in the bag?

.....
(Total for question 10 is 5 marks)