Probability GCSE Past Papers Questions

1.

Ray has nine cards numbered 1 to 9

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

Ray takes at random three of these cards.

He works out the sum of the numbers on the three cards and records the result.

Work out the probability that the result is an even number.

2.

In a bag there are only red counters, blue counters, green counters and pink counters.
A counter is going to be taken at random from the bag.

The table shows the probabilities of taking a red counter or a blue counter.

Colour	red	blue	green	pink
Probability	0.05	0.15	....	....

The probability of taking a green counter is 0.2 more than the probability of taking
a pink counter.

(a) Complete the table.

(2)

There are 18 blue counters in the bag.

(b) Work out the total number of counters in the bag.

3.

In a village,

> if it rains on one day, the probability that it will rain on the next day is 0.8
> if it does **not** rain on one day, the probability that it will rain on the next day is 0.6

A weather forecaster says,

> "There is a 70% chance that it will rain in the village on Monday."

Work out an estimate for the probability that it will rain in the village on Wednesday.
You must show all your working.

4.

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5,

There are only red sweets and yellow sweets in a bag.

There are n red sweets in the bag.
There are 8 yellow sweets in the bag.

Sajid is going to take at random a sweet from the bag and eat it.

He says that the probability that the sweet will be red is $\dfrac{7}{10}$

(a) Show why the probability cannot be $\dfrac{7}{10}$

(3)

After Sajid has taken the first sweet from the bag and eaten it, he is going to take at random a second sweet from the bag.

Given that the probability that both the sweets he takes will be red is $\dfrac{3}{5}$

(b) work out the number of red sweets in the bag.
You must show all your working.

6.

There are some counters in a bag.
The counters are blue or green or red or yellow.

The table shows the probabilities that a counter taken at random from the bag
will be blue or will be green.

Colour	blue	green	red	yellow
Probability	0.32	0.20		

The probability that a counter taken at random from the bag will be red is five times the
probability that the counter will be yellow.

There are 300 counters in the bag.

Work out the number of yellow counters in the bag.

7.

There are only red counters and blue counters in a bag.

Joe takes at random a counter from the bag.
The probability that the counter is red is 0.65
Joe puts the counter back into the bag.

Mary takes at random a counter from the bag.
She puts the counter back into the bag.

(a) What is the probability that Joe and Mary take counters of different colours?

(2)

There are 78 red counters in the bag.

(b) How many blue counters are there in the bag?

8.

60 people were asked if they prefer to go on holiday in Britain or in Spain or in Italy.

38 of the people were male.
11 of the 32 people who said Britain were female.
8 males said Italy.
12 people said Spain.

One of the females is chosen at random.

What is the probability that this female said Spain?