



SCAN ME

Conditional Probability



SCAN ME

← REVISE THIS TOPIC

→ CHECK YOUR ANSWERS

1 There are 4 blue counters and 5 yellow counters in a bag.
 Two counters are taken at random from the bag **without** replacement.
 Work out the probability that both counters taken are the **same** colour. [4 marks]

Answer _____





2 In a class there are 32 students.
13 of the students do higher tier maths and the other students do foundation.
Two of the students are selected at random from the class.

2 (a) Work out the probability that both students do higher tier maths. [2 marks]

Answer _____

2 (b) Show that
 $P(\text{exactly one of the selected students does higher tier maths}) < 50\%$ [4 marks]





5 Beth's pencil case contains

- 4 red pens
- 5 green pens
- 7 black pens

Beth takes 3 pens at random from her pencil case.

5 (a) Work out the probability that all 3 pens the same colour. [4 marks]

Answer _____

5 (b) The first pen chosen is black.
Work out the probability that all three pens are different colours. [3 marks]

Answer _____

Turn over ►



6 There are 9 identical boxes on a gameshow.
6 of the boxes are empty and the remaining 3 boxes contain different prizes.
A gameshow contestant must select 3 boxes that will all be opened.

6 (a) Show that the probability that the contestant wins all 3 prizes is greater than 1% [2 marks]

6 (b) Work out the probability that the contestant wins at least one prize. [4 marks]

Answer _____

6 (c) Work out the probability that the contestant wins **exactly one** prize. [4 marks]

Answer _____





8 A car showroom has 5 blue cars and 3 white cars for sale.
Assume that each of the cars has an equal chance of being sold.
On Monday 3 of the cars from the showroom are sold.

8 (a) Work out the probability that all three cars sold are the same colour. [4 marks]

Answer _____

8 (b) Work out the probability that there is only one white car left in the showroom. [4 marks]

Answer _____



10 Tim's toy box contains some cars and some lorries that are red, white or blue.

	Car	Lorry
Red	3	1
White	6	3
Blue	5	2

Tim takes two toys from his toy box at random.

10 (a) Work out the probability that one toy is a car and the other is a lorry. [4 marks]

Answer _____

10 (b) Work out the probability that both toys are different colours. [4 marks]

Answer _____



