Probability – 2023 Nov IGCSE 0580

1. Nov/2023/Paper_0580/11/No.23

The table shows the number of people in a town who are left-handed and the number who are right-handed.

	Left-handed	Right-handed	Total
Number of people	8 400	48 600	57 000

Write down the probability that a person, chosen at random, is left-handed.

..... [1]

2. Nov/2023/Paper_0580/13/No.12, 0580/23/No.6

Rama asks a group of students how they travel to school.
The table shows the probability of how a student, chosen at random, travels to school.

	Bus	Walk	Car	Other
Probability	0.4	0.32	0.17	

(a) Complete the table.

[2]

(b) There are 1800 students at the school.

Find the expected number of students that walk to school.

..... [1]

3. Nov/2023/Paper_0580/13/No.19

(a) A bag contains these cards.

1	7	3	9	4	5	2

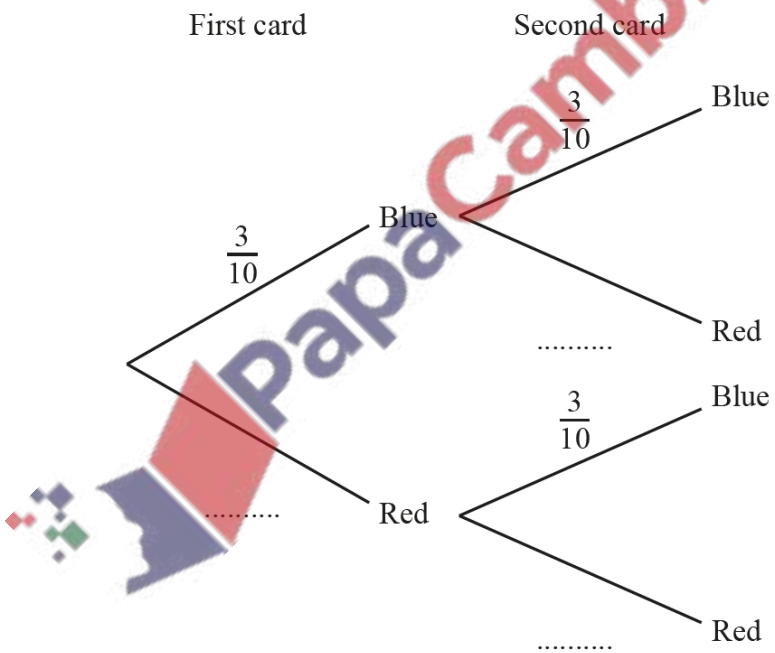
One of these cards is picked at random.

Find the probability that the number on the card is greater than 3.

..... [1]

(b) A box contains 3 blue cards and 7 red cards.
Kim picks one card at random, notes its colour and then replaces it in the box.
She then picks another card at random.

(i) Complete the tree diagram.



[1]

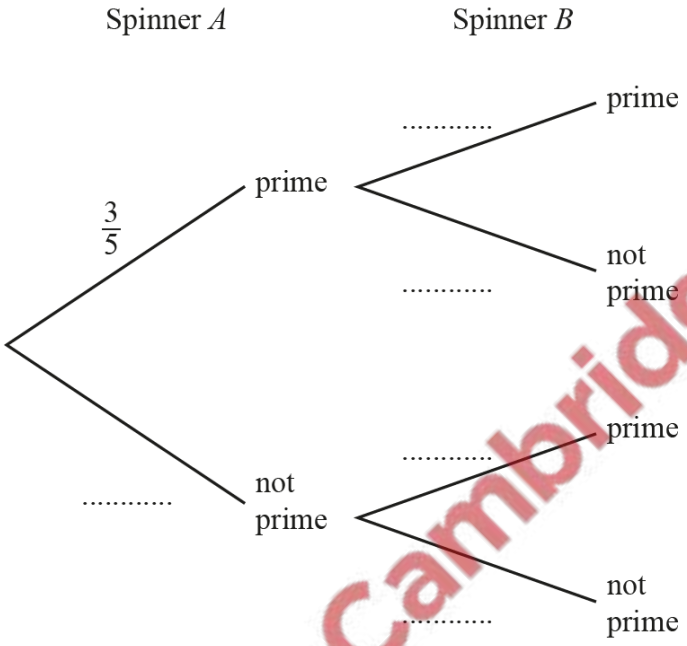
(ii) Work out the probability that both of the cards Kim picks are blue.

4. Nov/2023/Paper_0580/41/No.4

(a) Lucia has two fair spinners.
Spinner *A* is five-sided and is numbered 1, 2, 3, 4, 5.
Spinner *B* is nine-sided and is numbered 3, 3, 3, 4, 4, 4, 4, 5, 5.

Lucia spins the two spinners and records whether they land on a prime number.

(i) Complete the tree diagram.



[2]

(ii) Find the probability that

(a) the two numbers are both prime

..... [2]

(b) the two numbers are **not** both prime.

..... [1]

(b) Lucia spins Spinner A 120 times.

Find the expected number of times the spinner lands on a prime number.

..... [1]

(c) Lucia spins Spinner B twice.

Find the probability that the two numbers it lands on add up to 9 or more.

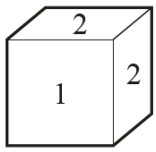
..... [3]

(d) Lucia keeps spinning Spinner B until it lands on a 4.

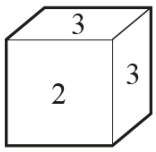
Find an expression, in terms of n, for the probability that this happens on the nth spin.

..... [2]

5. Nov/2023/Paper_0580/42/No.8



Dice A



Dice B

The diagram shows two fair dice.
Dice A is numbered 1, 2, 2, 2, 3, 6.
Dice B is numbered 2, 3, 3, 4, 4, 4.

(a) **(i)** Dice A is rolled once.

Write down the probability that it lands on the number 6.

..... [1]

(ii) Dice A is rolled 150 times.

Find the number of times it is expected to land on the number 6.

..... [1]

(b) Dice A and Dice B are each rolled once.

(i) Find the probability that the two numbers they land on have a total of 6.

..... [3]

(ii) Find the probability that when the two numbers they land on have a total of 6, both numbers are 3.

..... [2]

(c) Dice B is rolled n times.

The probability that on the nth roll it first lands on a number 3 is $\frac{32}{729}$.

Find the value of n.

$n =$ ..... [2]