Probability – 2023 IGCSE 0580

1. March/2023/Paper_0580/12/No.22

The probability of passing a driving test is 0.36 .
600 people take this driving test.

Work out the expected number of these people that will pass.

..... [1]

2. March/2023/Paper_0580/22/No.24

The probability of Jamie hitting a target is $\frac{1}{3}$.

The probability that he hits the target for the first time on his nth attempt is $\frac{64}{2187}$.

Find the value of n.

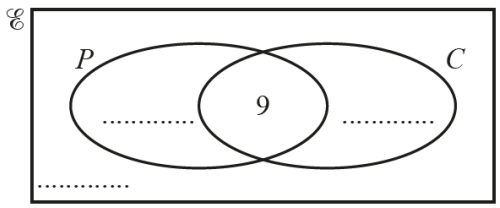
$n =$ ..... [2]

3. March/2023/Paper_0580/42/No.7

$\mathscr{E}$ = {students in a class} P = {students who study Physics} C = {students who study Chemistry}

$n(\mathscr{E}) = 24$ $n(P) = 17$ $n(C) = 14$ $n(P \cap C) = 9$

(a) Complete the Venn diagram.



[2]

(b) **(i)** Find $n(P \cap C')$.

..... [1]

(ii) Find $n(P \cup C')$.

..... [1]

(c) Two students are picked from the class at random.

Find the probability that one student studies both subjects and one student studies Chemistry but not Physics.

..... [3]

(d) Two of the students who study Physics are picked at random.

Find the probability that they both study Chemistry.

..... [2]

4. June/2023/Paper_0580/11/No.15// June/2023/Paper_0580/21/No.5

Eric has four colours of paint.
The table shows the probability that he uses each colour.

Colour	Red	Blue	Green	Yellow
Probability	0.3	0.35	0.13	x

Find the value of x.

$x =$ ..... [2]

5. June/2023/Paper_0580/12/No.12

A spinner is spun.
The possible outcomes are A, B, C or D.
The probability of spinning A, C or D is shown in the table.

Letter on spinner	A	B	C	D
Probability	0.2		0.05	0.35

Complete the table.

[2]

6. June/2023/Paper_0580/13/No.18

The probability that Tom is late for school is 0.12 .
There are 200 school days this year.

Work out the expected number of times that Tom is late for school this year.

..... [1]

7. June/2023/Paper_0580/13/No.21

A spinner has five sides.
Each side is painted red, blue, green, yellow or orange.
The table shows some of the probabilities of the spinner landing on each colour.

Colour	Red	Blue	Green	Yellow	Orange
Probability	0.3	0.16	0.18	0.25	

(a) Complete the table. [2]

(b) Dan spins the spinner once.

Find the probability that the spinner lands on red or blue.

..... [2]

8. June/2023/Paper_0580/21/No.15

A bag contains 5 green buttons, 2 blue buttons and 6 white buttons.
Maya takes two buttons at random from the bag, without replacement.

Calculate the probability that one button is green and the other button is not green.

..... [3]

9. June/2023/Paper_0580/22/No.5

A spinner is spun.
The possible outcomes are A, B, C or D.
The probability of spinning A, C or D is shown in the table.

Letter on spinner	A	B	C	D
Probability	0.2		0.05	0.35

Complete the table.

[2]

10. June/2023/Paper_0580/22/No.23

Bag A and bag B each contain red sweets and yellow sweets.
Anna picks a sweet at random from bag A.
Ben picks a sweet at random from bag B.
The probability that Anna picks a red sweet is $\frac{2}{5}$.
The probability Anna and Ben both pick a yellow sweet is $\frac{1}{10}$.

Find the probability that Anna and Ben both pick a red sweet.

..... [3]

11. June/2023/Paper_0580/23/No.7

A spinner has five sides.
Each side is painted red, blue, green, yellow or orange.
The table shows some of the probabilities of the spinner landing on each colour.

Colour	Red	Blue	Green	Yellow	Orange
Probability	0.3	0.16	0.18	0.25	

(a) Complete the table. [2]

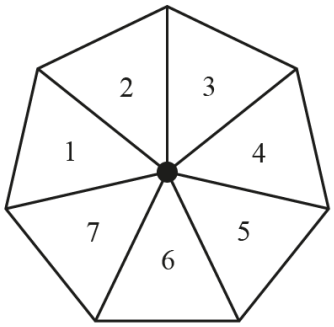
(b) Dan spins the spinner once.

Find the probability that the spinner lands on red or blue.

..... [2]

12. June/2023/Paper_0580/31/No.9

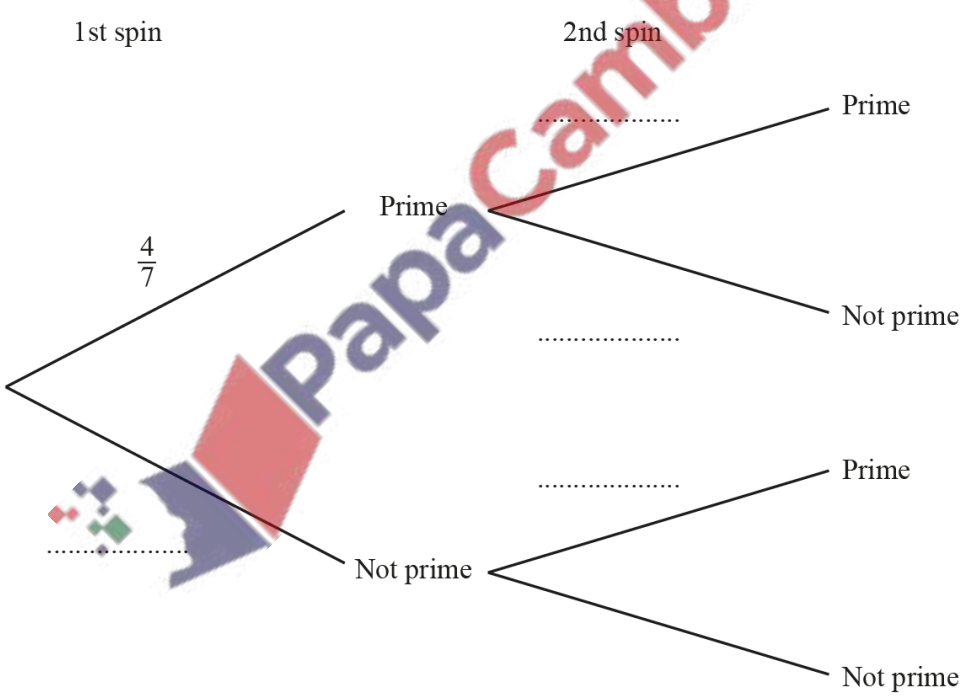
(a) Maria spins a fair 7-sided spinner numbered 1 to 7.



Explain why the probability that the spinner lands on a prime number is $\frac{4}{7}$.

[2]

(b) Maria spins the spinner a 2nd time.



(i) Complete the tree diagram. [2]

(ii) Work out the probability that the spinner lands on a prime number both times.

..... [2]