AQA – Probability – GCSE Mathematics Paper-3

1. May/2020/Paper_3F/No.8

A team of two players is picked from these people.

Female	Amy (A) Laura (L)
Male	Erik (E) Rob (R) Tim (T)

The team **must** have one female player and one male player.

Complete this list to show **all** of the possible teams.

[2 marks]

Female player	Male player
A	E

2. May/2020/Paper_3F/No.17(b)

(b) One of the students is chosen at random.

Work out the probability that the student was absent for **less than** 4 days.

[2 marks]

Answer _____

3. May/2020/Paper_3H/No.4

A fair coin is spun four times.

Circle the probability of getting four Heads.

[1 mark]

$\frac{1}{2}$ 2 $\frac{1}{8}$ $\frac{1}{16}$

4. May/2020/Paper_3H/No.11

A spinner can land on red, blue or green.

After 350 spins

relative frequency of red = 0.18

relative frequency of blue = 0.62

Work out the number of times the spinner landed on green.

[3 marks]

Answer _____

5. May/2020/Paper_3H/No.22

Visitors to a museum buy a child ticket or an adult ticket.

Here is some information about two groups of visitors.

Group X	250 visitors, including 120 children
Group Y	number of children : number of adults = 17 : 15

One visitor from each group is picked at random.

Is this statement correct?

Probability of picking two children > probability of picking two adults

You **must** show your working.

[4 marks]

6. June/2019/Paper_3F/No.21

To the nearest pound, Jon has £9

To the nearest 50p, Ellie has £6.50

Work out the maximum possible total amount of money.

[3 marks]

Answer £ _____

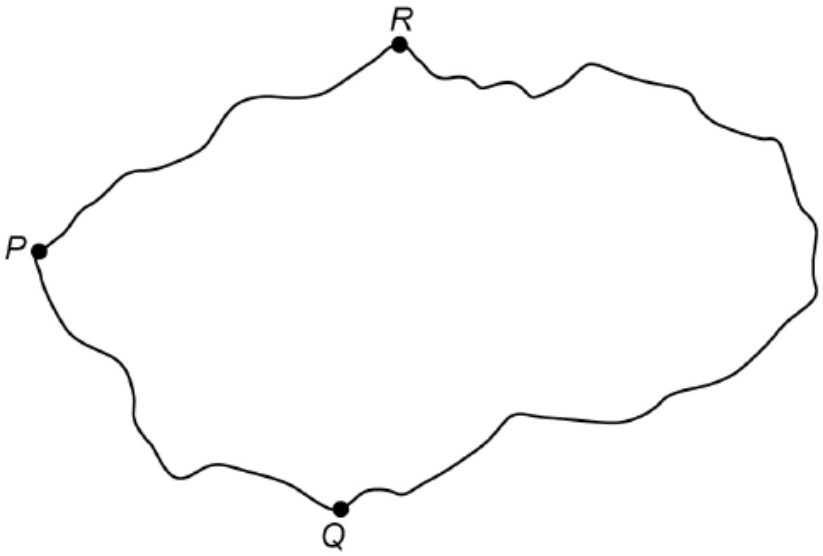
7. June/2019/Paper_3F/No.25

Towns *P*, *Q* and *R* are connected by roads *PQ*, *PR* and *QR*.

PR is 10 km longer than *PQ*.

QR is twice as long as *PR*.

The total length of the three roads is 170 km



Not drawn accurately

Work out the length of *PQ*.

[4 marks]

Answer _____ km

8. June/2019/Paper_3H/No.2

For a biased dice, $P(6) = \frac{3}{5}$

Circle the probability of two sixes when the dice is rolled twice.

[1 mark]

$\frac{6}{25}$ $\frac{6}{10}$ $\frac{9}{25}$ $\frac{9}{5}$

9. June/2019/Paper_3H/No.17

A factory makes kettles.

Four samples of kettles are tested for faults.

Each sample has size 200

Here are the relative frequencies of faulty kettles in the samples.

Sample	P	Q	R	S
Relative frequency	0.03	0.035	0.015	0.01

Work out the range of the number of faulty kettles in the four samples.

[3 marks]

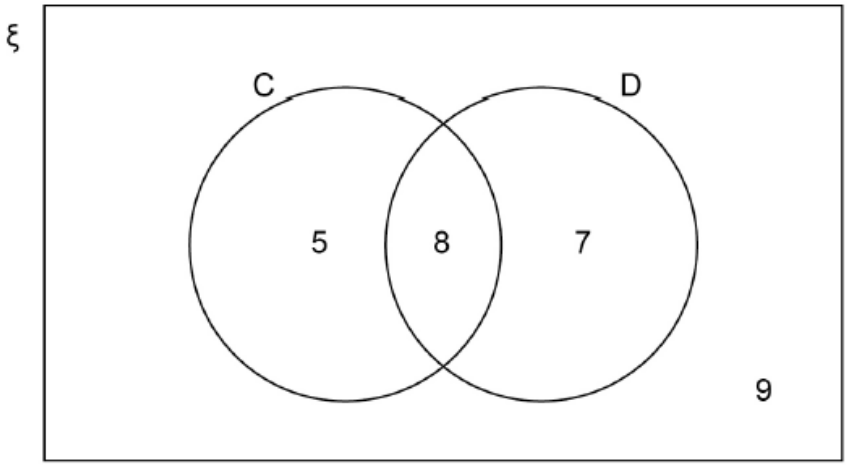
Answer _____

10. June/2019/Paper_3H/No.22

ξ = 29 students in a class

C = students who own a cat

D = students who own a dog



(a) A student is chosen at random.

Circle the probability that the student owns a cat or a dog but not both.

[1 mark]

$\frac{12}{29}$ $\frac{13}{29}$ $\frac{15}{29}$ $\frac{20}{29}$

(b) A student who owns a dog is chosen at random.

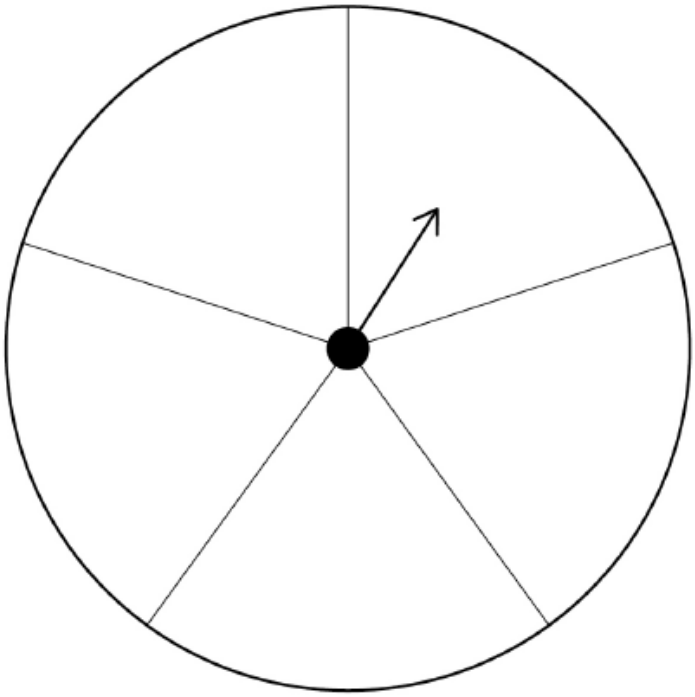
Circle the probability that the student also owns a cat.

[1 mark]

$\frac{7}{15}$ $\frac{8}{15}$ $\frac{7}{29}$ $\frac{8}{29}$

11. Nov/2019/Paper_3F/No.21

A spinner has five equal sections.



Write a number in each section so that

the numbers are all different factors of 100

P(single-digit number) $= \frac{3}{5}$

P(multiple of 25) $= \frac{1}{5}$

[3 marks]

12. Nov/2019/Paper_3F/No.25

In a choir there are 35 men and 48 women.

The probability that a man chosen at random wears glasses is $\frac{2}{5}$

The probability that a woman chosen at random wears glasses is $\frac{3}{8}$

(a) Work out the number of people in the choir who wear glasses.

[3 marks]

Answer _____

(b) A person is chosen at random from the choir.

Work out the probability that the person does **not** wear glasses.

[2 marks]

Answer _____

13. Nov/2019/Paper_3H/No.1

Circle the relative frequency that represents 13 successes out of 50 trials.

[1 mark]

0.13 26 13 : 50 0.26

14. Nov/2019/Paper_3H/No.8

In a choir there are 35 men and 48 women.

The probability that a man chosen at random wears glasses is $\frac{2}{5}$

The probability that a woman chosen at random wears glasses is $\frac{3}{8}$

(a) Work out the number of people in the choir who wear glasses.

[3 marks]

Answer _____

(b) A person is chosen at random from the choir.

Work out the probability that the person does **not** wear glasses.

[2 marks]

Answer _____