Probability – 2022 O Level Math D

1. June/2022/Paper_11/No.11

(a) 100 adults were asked the colour of their car.
The results are shown in the table.

Colour of car	Red	Black	Blue	Silver
Frequency	36	11	23	30

Write down the relative frequency that one of these cars is blue.

..... [1]

(b) A different group of 1200 adults were asked the colour of their car.
The relative frequency of one of these adults owning a white car is 0.3 .

Find the number of these adults who own a white car.

..... [1]

2. June/2022/Paper_12/No.22

A bag contains these 9 letter tiles.

(a) Nur takes one tile from the bag at random.
She notes the letter and then puts the tile back in the bag.

Find the probability that she does **not** take a letter E.

..... [1]

(b) Nur now takes two of the 9 letter tiles at random without replacement.

Find the probability that both tiles show the same letter.

..... [3]

3. June/2022/Paper_21/No.7

(a) Yasir travels to work either by car, bus, train or bike.
The probabilities of using these means of transport on any work day are shown in the table.

Means of transport	Car	Bus	Train	Bike
Probability	0.12	0.40	0.26	p

(i) Find p.

$p =$ ..... [1]

(ii) Find the probability that on Monday and Tuesday he travels to work by train on one day and by bus on the other day.

..... [2]

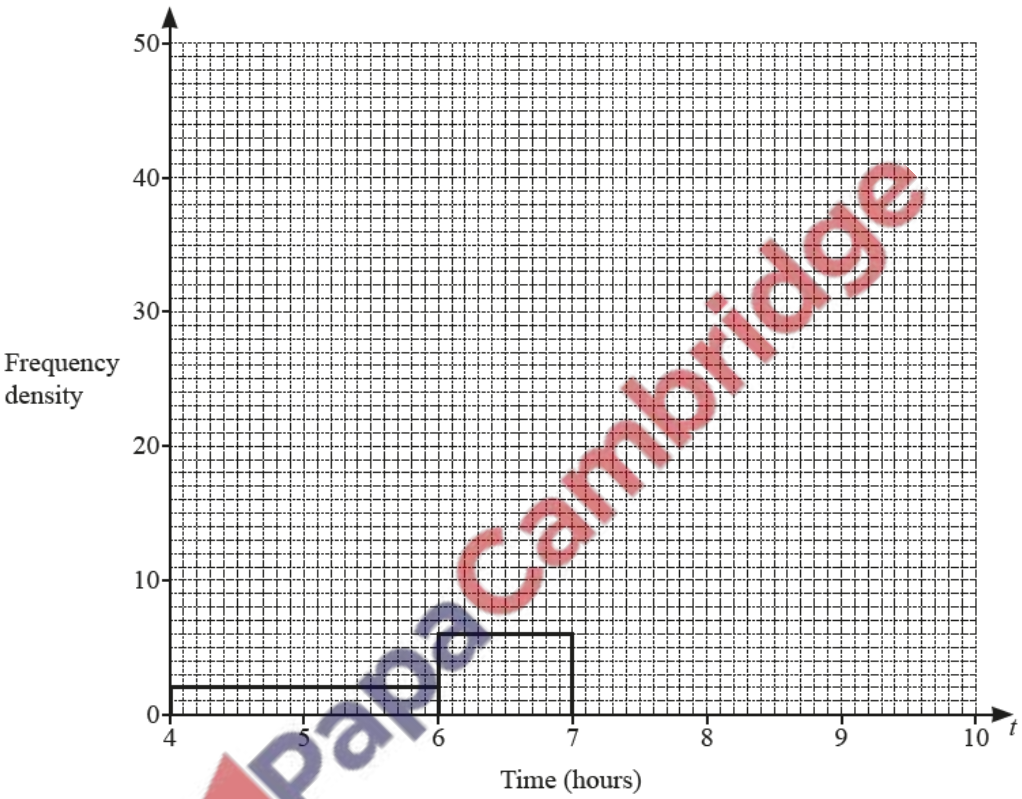
(iii) Find the probability that he travels to work by bus at least once on Wednesday or Thursday.

..... [3]

(b) Yasir records the length of time he spends at work on each of 70 work days.
The table shows the results.

Time (t hours)	$4 < t \leqslant 6$	$6 < t \leqslant 7$	$7 < t \leqslant 7\frac{1}{2}$	$7\frac{1}{2} < t \leqslant 8$	$8 < t \leqslant 8\frac{3}{4}$	$8\frac{3}{4} < t \leqslant 10$
Frequency	4	6	9	23	18	10

(i) Complete the histogram to represent the data.



[3]

(ii) Yasir starts work each day at 9.00 a.m.
He is paid overtime if he works later than 5.15 p.m.

Estimate the number of days he is paid overtime during these 70 work days.

..... [2]

4. June/2022/Paper_22/No.3

A 5-sided spinner is numbered 1, 2, 3, 4 and 5.
The table shows the results from spinning the spinner 200 times.

Number	Frequency
1	51
2	19
3	28
4	35
5	67

(a) A pie chart is drawn to show this information.

Calculate the angle of the sector representing the number 4.

..... [2]

(b) Use the results to estimate the probability that the spinner lands on 3.

..... [1]

(c) Use the results to estimate the probability that the spinner lands on a number that is a factor of 30.

..... [2]

(d) The spinner is spun 3000 times.

Estimate the number of times it lands on an even number.

..... [2]