ASSESMENT-2

Q1- Factorise:

1. -4x + 8x^2
2. 2x^3 + 11x^2 + 4x
3. Y(2+y) – y – 2
4. 4(a+b)^2 – 2a – 2b
5. 4x^2 -1
6. 28x^3 – 63x
7. 36 – 49x^2
8. 3x^2 – 15
9. (x-2)^2 – 7
10. (x+1)^2 – 4
11. (3x-1)^2 – (x+1)^2
12. 16x^2 – (2x + 3)^2
13. X^2 + 6x + 9
14. m^2 – 20m + 100
15. -8x^2 – 24x – 18
16. 25x^2 – 10x + 1
17. -2x^3 + 28x^2 – 98x
18. X^2 + 9x + 20
19. X^2 – 11x + 28
20. X^2 + 4x -21
21. -2x^2 – 8x + 42
22. 6x^2 – 19x + 10
23. 20x^2 + 31x + 12
24. 6x^2 + 7x – 3

Q2- The following marks were scored for a test out of 50 marks:

47 32 32 29 36 39 40 46 43 39 44 18 38 45 35 46 7 44 27 48

a. Construct a stem plot to display the data.
b. How many students scored 40 or more marks?

c. What percentage of the students scored less than 30 marks?
d. A score of 25 or more is required to pass the test. What percentage of the students passed?
e. Describe the distribution of the data.

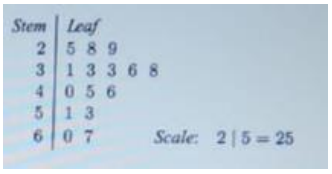
Q3- Students in a cooking class were instructed to bake a cake. The table alongside shows the times taken for the students to complete the task.

Time t (min)	*Frequency*
$50 \leq t < 60$	2
$60 \leq t < 70$	4
$70 \leq t < 80$	3
$80 \leq t < 90$	5
$90 \leq t < 100$	8
$100 \leq t < 110$	10
$110 \leq t < 120$	13
$120 \leq t < 130$	10
$130 \leq t < 140$	5

a. How many students were in the class?
b. How many students completed the task in less than 80 minutes?
c. Draw a frequency histogram to display the data.
d. Find the modal class.
e. Describe the distribution of the data.
f. Students taking longer than 2 hours received a penalty. What percentage of students received a penalty?

Q4- Find the mean and median of the data set:

a. 

b. 

Q5- Find x if:

a. 2, 2, 6, 4, 7 and x have a mean of 5.
b. 9, x, 14, 18, x, x, 8, 10 and 4 have a mean of 11.

Q6- Sixty peple were asked: " How many times have you been to the cinema in the last twelve months?". The results are given in the table alongside.

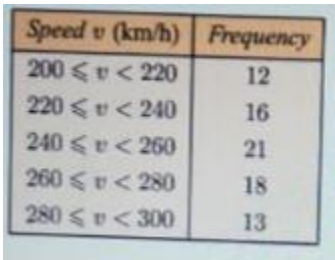
Number of times	*Frequency*
0 - 4	19
5 - 9	24
10 - 14	10
15 - 19	5
20 - 24	2

a. Extend the table to include an interval midpoint and a product column.
b. Estimate the mean of the data.

Q7- The frequency histogram shows the weight of the dogs at a dog show:

a. Describe the distribution of the data.
b. Construct a frequency table for the data.
c. Estimate the mean weight of the dogs at the show.

Q8- An airport authority measured the speeds of planes as they touched down on the runway during a particular day.



Speed v (km/h)	*Frequency*
$200 \leqslant v < 220$	12
$220 \leqslant v < 240$	16
$240 \leqslant v < 260$	21
$260 \leqslant v < 280$	18
$280 \leqslant v < 300$	13

a. Construct a cumulative frequency table for the data.
b. Draw a cumulative frequency graph of the data.
c. Estimate the number of planes travelling faster than 230 km/h when they touched down.
d. Estimate the median speed.

Q9- At a fast-food restaurant, the times taken for 24 customers to receive their orders were recorded in minutes as follows:

1.0 1.6 1.4 2.2 0.9 2.9 2.2 1.0 0.7 1.8 2.8 1.3 0.8 3.3 1.9
2.0 1.3 1.8 1.2 3.4 1.6 2.8 0.8 2.6

a. Find:

I. median ii. Lower quartile iii. Upper quartile

b. Find the range and interquartile range of the waiting times.

Q10- The data below shows the number of parking tickets handed out by an inspector each day for a month.

21 18 27 25 16 22 23 19 22 24

15 21 22 26 14 18 17 19 21 14

13 19 24 28 23 25 16 15 20 25

a. Construct the five-number summary for the data.
b. Draw a box-and-whisker plot to display the data.
c. The box-and-whisker plot alongside shows the number of parking tickets handed out by the inspector in the previous month. Did the inspector hand out more tickets this month or last month? Explain your answer.