

## SESSION 5

### Assignment 5

1. A recent survey showed that the typical American car owner spends GH¢2,950 per year on operating expenses. Below is a breakdown of the various expenditure items. Draw an appropriate chart to portray the data and summarize your findings in a brief report.

Expenditure Item	Amount (in GH¢)
Fuel	603
Interest on car loan	279
Repairs	930
Insurance and license	646
Depreciation	492
<b>Total</b>	<b>2,950</b>

2. The Ministry of Health reported that in the year 2007, the distribution of Ghanaian cancer patients by age was as follows:

Age Group	0 – 19	20 – 39	40 – 59	60+
Percentage of Patients	12.2	13.6	33.1	41.1

Draw a pie chart to represent the data.

3. The Registrar of the University of Ghana has 16 late applications of the Matured Entrance Examinations (MEE) for admission into the humanities programme in the university next academic year. The composite MEE scores of these applicants were:

27    27    27    28    27    25    25    28  
26    28    26    28    31    30    26    26

The MEE scores are to be organized into a frequency distribution.

- (a) How many classes would you recommend?
- (b) What class intervals would you suggest?
- (c) What lower limit would you recommend for the first class?



- (d) Organize the scores into a frequency distribution and determine the relative frequency distribution.
- (e) Comment on the shape of the frequency distribution.
4. ECOBANK is studying the number of times their Automatic Teller Machine (ATM), located at Legon Campus, is used each day. The following is the number of times it was used during each of the last 30 days. Develop a stem-and-leaf display for the data. Summarize the data on the number of times the ATM was used: How many times was the ATM used on a typical day? What are the largest and the smallest number of times the ATM was used? Around what values did the number of times the ATM was used tend to cluster?

83    64    84    76    84    54    75    59    70    61

63    80    84    73    68    52    65    90    52    77

95    36    78    61    59    84    95    47    87    60

5. A large retailer is studying the lead time (elapsed time between when an order is placed and when it is filled) for a sample of recent orders. The lead times are reported in days:

Lead Time (days)	Frequency
0 up to 5	6
5 up to 10	7
10 up to 15	12
15 up to 20	8
20 up to 25	7

- (a) How many orders were studied?
- (b) What is the midpoint of the first class?
- (c) Draw a histogram for the data.
- (d) Draw a frequency polygon for the data.
- (e) Interpret the lead times using the two charts.
- (f) How many orders were filled in less than 10 days? In less than 15 days?
- (g) Convert the frequency distribution into a less-than cumulative frequency distribution.
- (h) Develop a less-than cumulative frequency polygon.
- (i) About 60 percent of the orders were filled in less than how many days?