

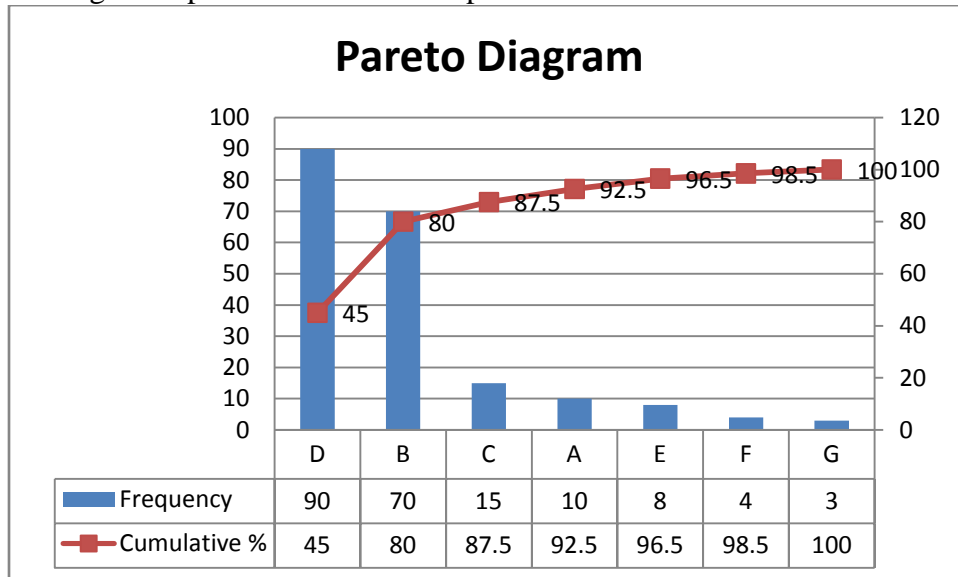
Econ 311: Problem Set #1 Solutions

Question.1

- a. Categorical, nominal (The response is categorical because the responses can be grouped into classes or categories, in this case yes/no. The measurement levels are nominal because the responses are words that describe the categories.)
- b. Categorical, ordinal (The response is categorical because the responses can be grouped into classes or categories. The measurement levels are ordinal because these are rankings of the data.)
- c. Numerical, discrete (The response is numerical because the responses cannot be grouped into classes or categories. Since the response is an actual cost, it is discrete because the value comes from a counting process.)

Question.2

Pareto diagram – possible defects for a product line

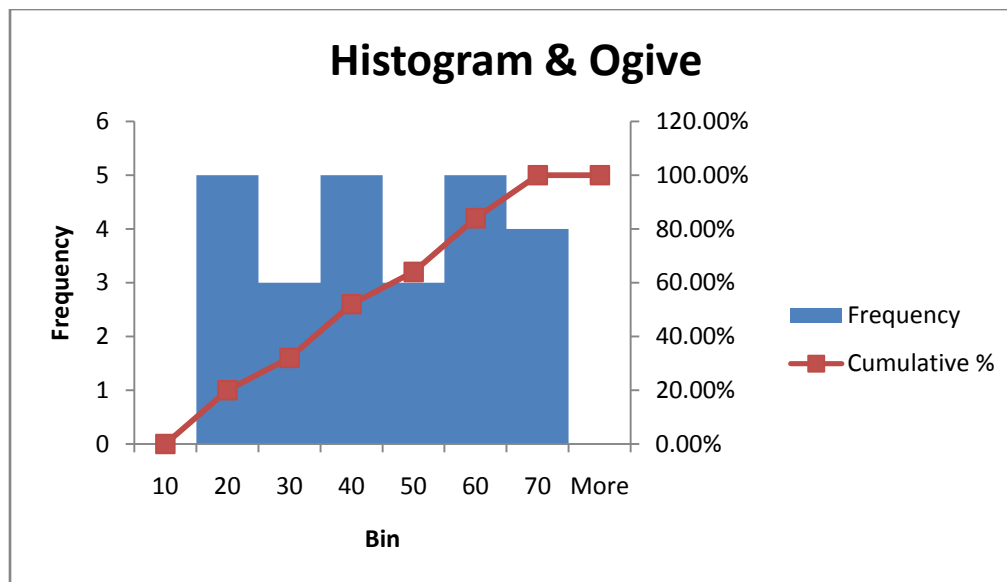


Question.3

a. frequency distribution

<i>Bin</i>	<i>Frequency</i>	<i>Cumulative %</i>
<=10	0	0.00%
<=20	5	20.00%
<=30	3	32.00%
<=40	5	52.00%
<=50	3	64.00%
<=60	5	84.00%
<=70	4	100.00%
More	0	100.00%

b. histogram and c. ogive



d. stem-and-leaf display

Stem	Leaves
1	7 5 5 3 2
2	8 4 1
3	9 5 9 7
4	1 0 4 4
5	1 9 6 4 9
6	2 5 5 4

Question.4

Population: All eligible voters in the U.S.

Sample: Voters selected to participate in the survey.

Sample statistic: 92% of the sample rated economic conditions as unfavorable.

Population parameter: The percentage of all voters who would rate economic conditions as unfavorable.

Question.5

Simple random sampling is a procedure used to select a sample of n objects from a population in such a way that each member of the population is chosen strictly by chance, each member of the population is equally likely to be chosen, and every possible sample of a given size, n , has the same chance of selection. This method is so common that the adjective *simple* is generally dropped, and the resulting sample is called a random sample.