

1.) Determine whether the following describe discrete or continuous data.

- a. A possible height for a tree is 76.2" tall. b. The number of suitcases lost by an airline.

2.) Determine which level of measurement is most appropriate: nominal, ordinal, interval, or ratio.

- a. The boiling temperatures of different liquids.

- b. The colors of peanut M&M candies in a large bag.

- c. Voters are classified as low-income, middle-income, or high-income.

- d. Four people are randomly selected and asked how much money they have with them.
Here are the results: \$21, \$50, \$65, and \$300.

3.) Identify which of these types of sampling is used: systematic, stratified, cluster, or convenience.

- a. George went through the telephone book and called every 89th person listed.

- b. Four people divided the telephone book evenly and each randomly sampling from their portion.

- c. All people with a 461 telephone exchange are called.

- d. A telemarketer gathers data for his class by asking his "list" supplemental questions.

4.) Determine which type of data is most appropriate qualitative or quantitative.

- a. Poor, Fair, Good, Better, Best

- b. The electric charge of a single electron which was first convincingly measured in 1911 in the **Millikan Oil-drop Experiment**

Use the following data to answer the questions.

5.) Consider the following murder rates (per 100,000 people) for each of the 50 states:

AL 13.3	AK 12.9	AZ 9.4	AR 9.1	CA 11.7	CO 7.3	CT 4.2	DE 6.7	FL 11.0	GA 14.4
HI 6.7	ID 5.4	IL 9.9	IN 6.2	IA 2.6	KS 5.7	KY 9.0	LA 15.8	ME 2.7	MD 8.2
MA 3.7	MI 10.6	MN 2.0	MS 12.6	MO 10.4	MT 4.8	NE 3.0	NV 15.5	NH 1.4	NM 10.2
NY 10.3	NC 10.8	ND 1.2	OH 6.9	OK 8.5	OR 5.0	PA 6.2	RI 4.0	SC 11.5	SD 1.9
TN 9.4	TX 14.2	UT 3.7	VT 3.3	VA 8.8	WA 4.6	WV 6.8	WI 2.5	WY 7.1	NJ 4.4

Calculate the following:

a. Mean

b. Standard Deviation

c. Median.

d. Mode.

e. Range.

f. Variance

g. Midrange

h. Find the percentile of the state of CA.

j. Boxplot with the 5 number summary.

6.) A survey *ELAC Student* and the time they spend studying per week is given in the table below.

a. Construct a relative frequency table with class boundaries. Use the given empty table above.

Hours per Week	Frequency	Hours per Week With Class Boundaries	Relative Frequency
0 – 3	100		
4 – 7	87		
8 – 11	50		
12 – 15	35		
16 – 19	20		
20 – 23	18		

b. Graph a histogram.

c. Are the study times of ELAC students symmetric or skewed?

d. If a student studies 14 hours per week, would that student be considered unusual?

7.) Find the GPA of a student with following grades and units:

- 3 unit Sociology course with grade of A,
- 5 unit Mathematics course with grade of C,
- 4 unit Nursing course with grade of A,
- 3 unit Biology course with grade of D

8.) The following is a Stem and Lead MINITAB out that represents the scores of Exam #1 in Math 260.

Stem-and-Leaf Display: Scores

Stem-and-leaf of Scores N = 45

0	11255
1	022446
2	045
3	1235578
4	559
5	79
6	13368
7	177
8	0056899
9	015
10	0

Given the data above,

a. Determine Q_2 .

b. What score separates the bottom 95% from the top 5%?

9.) The following are the Final grades of a Math 227 class.

A B B B C C C C C C C C C C D D D D D F

Given the data above,

a. Graph a Pie Chart with all labels.

b. Graph a Bar Chart with all labels.

10.) The following data represents a simple random sample of 500 different, equivalent three layer golf balls from two different companies. They were tested and the results for their game life, in number of holes, are given below. Explain why a golfer would select Company 2 golf balls over Company 1 golf balls.

MINITAB OUTPUT

Descriptive Statistics: Company 1, Company 2

Variable	N	Mean	StDev	Minimum	Q1	Median	Q3	Maximum
Company 1	500	36.00	15.00	2.000	7.25	29.00	40.75	60.00
Company 2	500	25.50	2.50	4.00	18.25	24.00	30.00	40.00

11.) Notation. Do not state the name; however, state what it represents in Statistics.

a. N _____

b. s^2 _____

c. \bar{x} _____

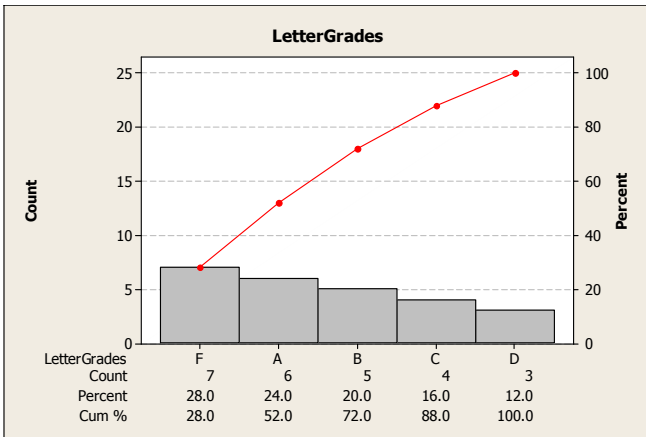
d. n _____

e. μ _____

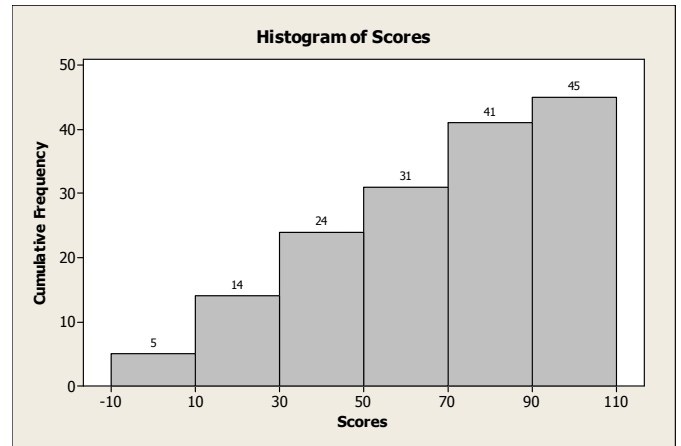
f. σ _____

12.) Name the graph.

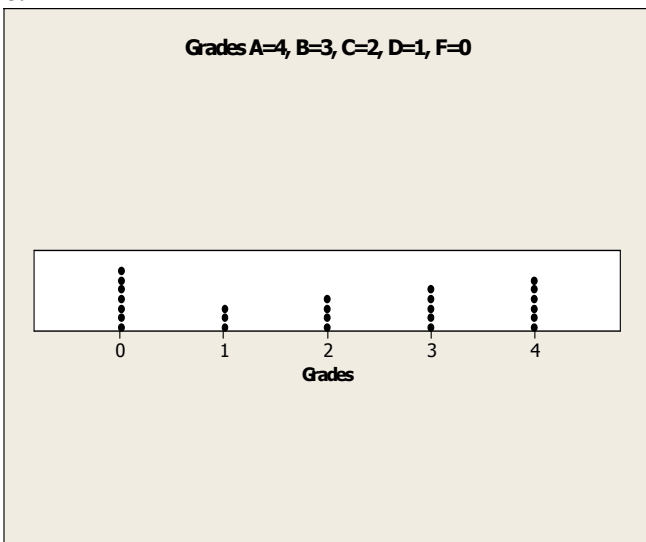
a.



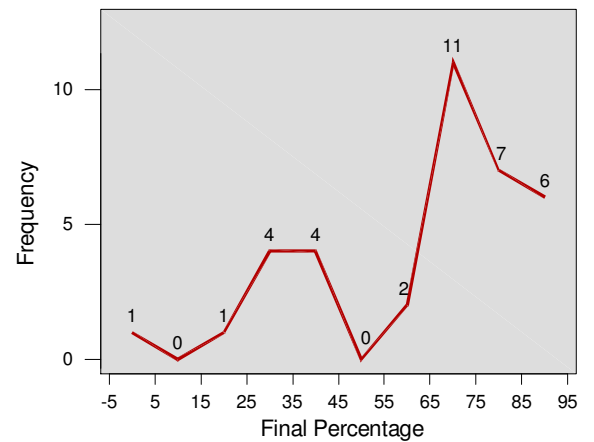
b.



c.



d.



13.) The cost of homes in the greater Los Angeles area is found to be normally distributed with a mean of \$350,000 with a standard deviation of \$75,000? What can be said about homes that cost \$200,000 or more in the greater Los Angeles Area?

14.) Use z-score.

a. In a certain city the mean price of a quart of milk is \$0.63 with a standard deviation of \$0.08. The mean price of a package of bacon is \$1.80 with a standard deviation of 15 cents. If we pay \$0.89 for a quart of milk and \$2.19 for a package of bacon at a 24-hour convenience store, which is relatively more expensive, the quart of milk or the package of bacon?

b. Which product has a price that is considered unusual?