

**STA 2122**      **SAMPLE REVIEW – CHAPTERS 1-3** (not all-inclusive)

## 1. True/False

- \_\_\_ a) A sample is the complete set of observations or measurements of interest to an experimenter.
- \_\_\_ b) The stem-and-leaf display is a tool used to graph qualitative data
- \_\_\_ c) The union of two events, A and B, is the event containing all the sample points that are either in event A or event B or both events A and B.
- \_\_\_ d) In a skewed right distribution, the mean is greater than the median.

2. Use the sample below to find the following:

6    8    0    4    -3    6

- \_\_\_\_\_ mean                      \_\_\_\_\_ standard deviation
- \_\_\_\_\_ median                  \_\_\_\_\_ range
- \_\_\_\_\_ mode

3. Identify the following variables as Qualitative or Quantitative:

- \_\_\_\_\_ The declared major of a college student
- \_\_\_\_\_ The cost of a fast-food meal
- \_\_\_\_\_ The favorite brand of soft-drink of a consumer

4. A group of faculty and students were surveyed regarding a campus issue; their opinions are recorded below. Use the following table to answer the following questions:

OPINION	In Favor	Opposed	No Opinion
Faculty	20	34	0
Students	93	70	23

- \_\_\_\_\_ a) What proportion of the responses were in opposition to the issue?
- \_\_\_\_\_ b) What proportion of those opposed were faculty?
- \_\_\_\_\_ c) What proportion of the responses were either from students or in favor of the issue?
- \_\_\_\_\_ d) Are the events S(Student) and N(No opinion) mutually exclusive events? Thoroughly justify your answer.
- \_\_\_\_\_ e) Are the events S(Student) and N(No opinion) independent events? Thoroughly justify your answer.
5. Suppose 60% of a group of American citizens is registered to vote and of those registered, 85% voted in the last Presidential Election. What is the probability a randomly selected citizen is both registered to vote and voted in the last Presidential Election?

### **KEY**

(Brief answers; on the exam remember to show your work)

1. F, F, T, T
2. mean = 3.5, median = 5, mode = 6, st. dev. = 4.2, range = 11
3. Qual., Quan., Qual.
4. a) .43 b) .33 c) .86 d) No,  $P(S \cap N) = .10 \neq 0$  e) No,  $P(S) \neq P(S|N)$ ;  $.78 \neq 1.00$
5. .51