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:

<table>
<thead>
<tr>
<th>OPINION</th>
<th>In Favor</th>
<th>Opposed</th>
<th>No Opinion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Faculty</td>
<td>20</td>
<td>34</td>
<td>0</td>
</tr>
<tr>
<td>Students</td>
<td>93</td>
<td>70</td>
<td>23</td>
</tr>
</tbody>
</table>

_____ 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∩N) = .10 ≠ 0   e) No, P(S) ≠ P(S|N); .78 ≠ 1.00
5. .51