1. (6 points) In each case tell whether the information given is at the nominal, ordinal, interval, or ratio level of measurement. The number or word in parentheses indicates what data you are to classify.
   (a) The official color of SU is orange. (orange)
   (b) The tuition at SU is $28,820. (28,820)

2. (6 points) In each case tell whether the sample is being selected by random, systematic, cluster, stratified, or convenience sampling.
   (a) A college wishes to survey a sample of its freshmen. It puts all their names on individual slips of paper, puts them all in a box, mixes it up thoroughly, then someone with eyes closed picks 50 of the slips of paper.
   (b) A marketing firm wishes to conduct a mail survey of the country. It randomly selects 50 zip codes, and then mails the survey to everyone in each of the 50 selected zip codes.

3. (6 points) Make the relative frequency distribution (not histogram) that corresponds to the following frequency distribution. Be sure to label both columns appropriately. Express the relative frequencies as percents.

<table>
<thead>
<tr>
<th>Weight of Pumpkins (pounds)</th>
<th>Number of pumpkins</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 - 9</td>
<td>2</td>
</tr>
<tr>
<td>10 - 14</td>
<td>8</td>
</tr>
<tr>
<td>15 - 19</td>
<td>7</td>
</tr>
<tr>
<td>20 - 24</td>
<td>3</td>
</tr>
</tbody>
</table>

Go to next page.
4. (12 points) Of 20 white rabbits 12 are female and 8 are male. Of 5 brown rabbits 3 are female and 2 are male. If one of these 25 rabbits is chosen at random, what is the probability that it is either white or female?

5. (10 points) In a certain state 60% of the voters are Democrats. If 12 voters from that state are chosen at random, what is the probability exactly 7 of them are Democrats?

6. (12 points) Person A scored 70 on a test where the mean was 60 and the standard deviation was 4. Person B scored 80 on a test where the mean was 50 and the standard deviation was 15.
   (a) Compute the z-score for each person.
   (b) Which person scored relatively higher?

7. (12 points) Life spans of a certain brand of light bulb are normally distributed with a mean of 3000 hours and a standard deviation of 100 hours. Find the 20th percentile, which is the life span separating the bottom 20 percent from the top 80 percent.

8. (12 points) A simple random sample of 61 giraffes from a certain wildlife preserve has a mean height of 17.2 feet with a sample standard deviation of 2.4 feet. Find a 90% confidence interval for the mean height of all giraffes in that wildlife preserve.

9. (12 points) Weights of cattle in a certain feedlot have a mean of 1500 pounds and a standard deviation of 200 pounds. A simple random sample of 70 cattle is taken from that lot. What is the probability that the mean weight of that sample is greater than 1550 pounds?

10. (12 points) For the following list of numbers find the mean, median, mode and midrange.

   4   4   4   5   6   7   9   10   11   11