1. Explain how a sample is related to a population.

2. a. Explain what is meant by the *distribution* of a categorical variable.

   b. List two ways that this distribution can be displayed visually.

3. For each of the following variables, indicate with Q or C whether it is a quantitative variable or a categorical variable.
   a. the color of a M&M candy
   b. the weight of an airplane
   c. the life expectancy of a nation
   d. how many miles a person walks in one day
   e. the age of a mother when her first baby born
   f. whether or not a student eats breakfast or doesn’t
   g. the length of a snake
   h. whether or not a car has automatic transmission or manual transmission/stick shift
   i. the number of calories in a pint vanilla ice cream
   j. whether or not a baby tests HIV-positive
   k. the running time of a Tom Cruise movie
   l. whether or not a state’s name consists of one word
   m. the diameter of a pizza
   n. the number of dogs an animal shelter has
   o. the height of a sequoia tree
   p. the color of a bottle of wine
   q. the number of books a person owns
r. the race of a person

4. Consider the following pie chart:

![Pie Chart]

a. What is the variable described in the pie chart?

b. Summarize what the pie chart shows.

5. Consider the following bar graph: Pressure from schoolwork

![Bar Graph]

a. What is the variable described in the bar graph?

b. What percent of students feel no pressure from schoolwork?
6. In 2007, 5488 people were killed while working. Here is a breakdown of causes: transportation: 2234; contact with objects or equipment: 916; assaults or violent acts: 839; falls: 835; exposure to harmful substances or harmful environment: 488; fires or explosions: 151; others: 25. (The data are from the Bureau of Labor Statistics.) Construct a bar graph.

7. The graph below came from the USA Today Snapshots: Commuting Time.

List two things that are wrong with this graph.