1. *Determine whether the numerical value is a parameter or a statistic (and explain):*
   1. A survey of 1103 students at a university reported an average of 7 hours of sleep per night. The university has 19,500 students.
   2. The 2006 team payroll of the New York Mets was $101,084,963.
   3. The average late fee for 360 credit card holders was found to be $56.75.
2. *A survey will be given to 100 students randomly selected from the freshmen class at Heritage High School.*

What is the population? What is the sample?

1. *Do the following describe an observational study or an experiment?*
   1. In 2001, a report in the *Journal of the American Cancer Institute* indicated that women who work nights have a 60% greater risk of developing breast cancer.  Researchers based these findings on the work histories of 763 women with breast cancer and 741 women without the disease.
   2. The muscles of men aged 40 - 50 were 40% to 50% stronger after they participated in a 10 week, high-intensity, resistance training program twice a week.
   3. To research the effects of dietary patterns on blood pressure in 459 subjects, subjects were randomly assigned to three groups and had their meals prepared by dietitians.  Those who were fed a diet low in fat and cholesterol lowered their systolic blood pressure by an average of 6.7 points when compared with subjects fed a control diet.
2. Are the following surveys biased or unbiased? Explain why.
   1. Question: What is your favorite sport?  Sample is chosen from people attending a soccer game.
   2. Question: What is your favorite soft drink? Sample is chosen by asking every tenth person on a list of all students.
   3. Question: Since pizza is a much cheaper option, wouldn’t you rather have pizza served at the party than hamburgers? Sample is chosen by asking every student in the class.