Name _____ Date _____

Elementary Statistics Period _____

Chapter 1 Quiz Review

Sections 1.1-1.4

1. Identify the level of measurement (nominal, ordinal, interval, ratio) used in each of the following:

   a. A local hotel was rated 4 stars by Expedia.com

   b. The temperature in Saugerties was 79°F last Saturday.

   c. There are 43 students currently enrolled in Elementary Statistics this year.

   d. The soccer jersey numbers this season are 2, 4, 5, 7, 13, 14, 18, and 25.

2. You are conducting a study to determine how all students in your school feel about a new bell schedule. Identify the name of each of the following sampling techniques you could use: random, systematic, convenience, stratified, cluster

   a. Randomly select 3 students from each math class to survey

   b. Take a list of all 1200 students in your school and number them from 1-1200. Use a random number generator to randomly select 200 students to survey

   c. Randomly select one math class from each grade level and survey every student from the 6 selected classes

   d. Survey 200 random students waiting in the lunch line

   e. Survey every 10^{th} student that enters the lobby door at the beginning of the school day

3. The label on Neutrogena face wash indicates that their soap "will reduce acne by 150%." What is wrong with this claim?

4. When 200 SHS seniors were surveyed, it was found that 26 had their own car. What is the percent of SHS seniors that own their own car?

5. You are doing research on drinking and driving in Ulster County. For questions a-c, indicate whether the observational study used is cross-sectional, retrospective, or prospective.

a. You collect data from the Department of Motor Vehicles on how many arrests were made in Ulster County over the last 10 years.

b. You conduct an anonymous online poll to determine how many people have had 2 or more drinks then drove a car.

c. You randomly select 10 twenty-one year-old drivers. You collect information on their current driving record and send a survey every 2 months for the next 5 years.

6. You are conducting a study to determine the distance driven to school by all 110 of the teachers at Saugerties High School. You sample one teacher from each subject and find that 23% drive less than 10 miles to work.

a. Is the 23% a parameter or a statistic? Explain.

b. Based on the data collected, how many teachers drive more than 10 miles to work (round appropriately)?

c. Consider the total distance driven by each teacher in miles. Are those values discrete or continuous? Explain.

7. You plan to conduct an experiment to test the effectiveness of a new moisturizer made by Dove. You will use a sample of subjects that use the new Dove moisturizer and another sample of subjects that do use the original Dove moisturizer.

a. What is "blinding" and how might it be used in this experiment?

b. Give an example of a completely randomized design for this experiment.

c. Give an example of a rigorously controlled design for this experiment.

d. Give an example of a matched pairs design for this experiment.

e. Give an example of confounding that could occur from this study?

f. What is replication and why is it important?