Name _____ Date _____

Elementary Statistics Period _____

Chapter 6 Quiz 1 Review

(Sections 6.2 – 6.3)

1. Describe the characteristics of data that is normally distributed.

2. What is a z-score?

3. What does z_α represent?

4. What are the 3 properties of the standard normal distribution?

5. What is a uniform distribution?

6. What is a density curve? What is the area under a density curve?

7. What formula should you use to convert values to standard z-scores?

8. A particular high school has 5 minutes between classes. Assume that the arrival times to class can be anywhere between 0 and 5 minutes and are uniformly distributed.

a. What is the probability that a student is at least 2 minutes early for class?

b. What is the probability that a student is less than 1 minute early for class?

c. What is the probability that a student is between 2 and 4 minutes early for class?

9. Assume that a randomly selected subject is given a bone density test. Those test scores are normally distributed with a mean of 0 and a standard deviation of 1.

a. Find the probability of having a bone density test score below 1.04.

b. Find the probability of having a bone density test score above -0.97.

c. Find the probability of having a bone density test score between -1.25 and 1.25.

d. Find $z_{0.75}$ of the bone density scores.

10. The lengths of the wings of houseflies are normally distributed with a mean of 45.5 mm and a standard deviation of 3.92 mm.

a. Find the probability of a housefly have a wing length less than 40 mm.

b. Find the probability of a housefly have a wing length greater than 48 mm.

c. Find the probability of a housefly have a wing length between 42 and 47 mm.

d. 52% of houseflies have wing lengths below what value?

e. 96% of houseflies have wing lengths above what value?