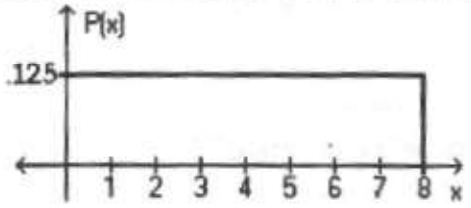
Name:_____ Statistics

Ch 5.1-5.4 Review

1. **Using the following uniform density curve, answer the question.**



3) What is the probability that the random variable has a value greater than 5.6?

A) 0.2500 B) 0.1750 C) 0.4250 D) 0.3000

Using a standard normal distribution find the given probabilities.

2. between 0 and 1.77.

3. greater than -0.94

4. between - 2.31 and 0.

5. between -2.19 and 0.56

6. less than -1.48

7. between 1.59 and 2.94

Assume thermometers have a μ of 0 and $\sigma = 1$, find the following temperatures.

8. Find the temperature for Q_3.

9. If 15% of the thermometers are rejected because they have readings that are too low,but all others are acceptable. Find the reading that separates the rejected from the acceptable.

10. If the bottom and top 5% of thermometers are being rejected, what are the temperature readings for the acceptable thermometers?

11. IQ test scores are normally distributed with a mean of 100 and a standard deviation of 15. An individual's IQ score is found to be 110. Find the z-score corresponding to this value?

12. IQ test scores are normally distributed with a mean of 100 and a standard deviation of 15. What is the probability an individual's IQ score is found to be less than 85?

13. IQ test scores are normally distributed with a mean of 100 and a standard deviation of 15. What is the probability an individual's IQ score is found to be between 120 and 140?

14. Assume the heights of men are normally distributed with a mean 69 inches and a standard deviation of 2.8 inches. If the top and bottom 10% are excluded from the study, what heights would be excluded from the experiment?

15. Assume the heights of men are normally distributed with a mean 69 inches and a standard deviation of 2.8 inches. If the middle 50% are included in a study, what heights would be included in the experiment?

16. A tire company finds the life span for one brand of its tires is normally distributed with a mean of 48,500 miles and standard deviation of 5000 miles. If the manufacturer is willing to replace no more than 10% of the tires, what should be the approximate number of miles for a warranty?