

HONORS STATISTICS: CHAPTER 5 REVIEW

1. Your employer is careful to give raises that are uniformly distributed between \$0.10 and \$0.20 (he's cheap).
 - a. Find the probability that your raise is \$0.18
 - b. Find the probability that your raise is at least \$0.14
 - c. Find the probability that your raise is between \$0.11 and \$0.19

2. The normal distribution of women's total cholesterol levels has a mean of 228 milligrams per deciliter, and the standard deviation of 43.8 milligrams per deciliters.
 - a. What percent of the women have a total cholesterol level less than 239?
 - b. If 200 women are randomly selected, about how many would you expect to have a total cholesterol level greater than 200 milligrams per deciliter of blood?
 - c. If a random sample of 5 women is selected, find the probability that the sample mean will be less than 200 mg?
 - d. What cholesterol level is at the 95 percentile?

3. SAT math scores are uniformly distributed, ranging from 500 – 620. What percent of the students scored above 600?

4. Utility bills are normal distributed with a mean of \$100 and the standard deviation of \$12.
 - a. What percent of the utility bills are more than \$125?
 - b. What is the probability that a group of 25 randomly selected bills have a mean of at least \$92?
 - c. If 300 utility bills are randomly selected, about how many would you expect to be less than \$90?
 - d. What bill amount separated the bottom 10%?

5. In a survey of men in the U.S. the mean height was 69.2 inches with a standard deviation of 2.9 inches.
 - a. What height represents the 90th percentile?
 - b. What is the probability that a randomly selected man is between 68.2 and 70.0 inches tall?
 - c. What heights of men separate the top 10% and the bottom 10%?
 - d. If 200 men are randomly selected, how many of them will be taller than 72.92 in?

1a 0

1b 0.6

1c 0.8

2a approx 59.87%

2b approx 148 women

2c 0.0764

2d approx 300

3a approx 17%

4a approx 1.88%

4b .9996

4c approx 61 bills

4d approx \$84.64

5a 72.9 in

5b .2471

5c 65.5 in and 72.9 in

5d approx 20 men