Lab Assignment 6.1

Name:_____Date:_____Row:_____ **Lab Assignment 6.1**

1. What is the z-score of x= 12, if it is two standard deviations to the right of the mean?
2. What is the z-score of x= 7, if it is 0.133 standard deviations to the left of the mean?
3. Suppose X~N(9, 5). What value of x has a z-score of –0.5?
4. Suppose X~N(4, 2). What value of x is two standard deviations to the right of the mean?
5. Suppose X~N(–1, 2). What is the z-score of x= 2?
6. Suppose X~N(9, 3). What is the z-score of x= 9?
7. In a normal distribution, x = 3 and z = 0.67. This tells you that x = 3 is ____ standard deviations to the ____ (right or left) of the mean.
8. About what percent of the x values from a normal distribution lie within two standard deviations (left and right) of the mean of that distribution?
9. About what percent of x values lie between the mean and three standard deviations?
10. The patient recovery time from a particular surgical procedure is normally distributed with a mean of 5.3 days and a standard deviation of 2.1 days. What is the z-score for a patient who takes ten days to recover?
11. The heights of the 430 National Basketball Association players were listed on team rosters at the start of the 2005–2006 season. The heights of basketball players have an approximate normal distribution with mean, $\mu=79$ inches and a standard deviation, $\sigma=3.89$ inches. For each of the following heights, calculate the z-score and interpret it using complete sentences.

1. 77 inches
2. 85 inches
3. If an NBA player reported his height had a z-score of 3.5, what would be his height? Would you believe him? Explain your answer.