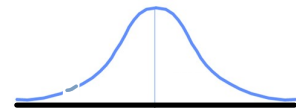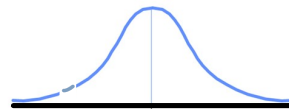Name:_____   Class Period:_____

Ch 5.1-5.4 Quiz review #2

1. Your principal is conducting a fire drill sometime during the school day. If there are eight hours in a school day, what is the probability that the drill occurs before 5th hour?
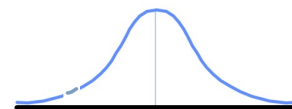
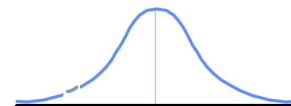2. Find the area under the standard normal curve between $z = 1$ and $z = 2$.

3. Find the area under the standard normal curve to the left of $z = 1.5$.

4. Find the area under the standard normal curve between $z = -1.5$ and $z = 2.5$.

5. For a standard normal curve, find P_{30}, that is, the z-score that separates the bottom 30% from the top 70%.

6. The lengths of pregnancies are normally distributed with a mean of 268 days and a standard deviation of 15 days. A baby is premature if it is born three weeks early. What percentage of babies are born prematurely?
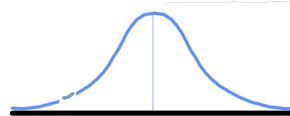
7. An airline knows from experience that the distribution of the number of suitcases that get lost each week on a certain route is approximately normal with $\mu = 15.5$ and $\sigma = 3.6$. What is the probability that during a given week the airline will lose more than 20 suitcases?
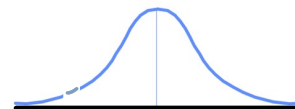
8. The distribution of cholesterol levels in teenage boys is approximately normal with $\mu = 170$ and $\sigma = 30$ (Source: U.S. National Center for Health Statistics). Levels above 200 warrant attention. What percentage of teenage boys have levels between 170 and 225?
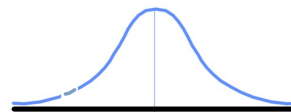
9. Assume that the heights of women are normally distributed with a mean of 63.6 inches and a standard deviation of 2.5 inches. The cheerleaders for a local professional basketball team must be between 65.5 and 68.0 inches. If a woman is randomly selected, what is the probability that her height is between 65.5 and 68.0 inches?
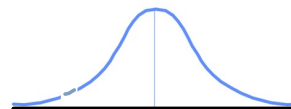
10. The times for completing one circuit of a bicycle course are normally distributed with a mean of 72.5 minutes and a standard deviation of 6.5 minutes. An association wants to sponsor a race but only wants the top 25% of riders included. In a trial run, what should be the cutoff time?
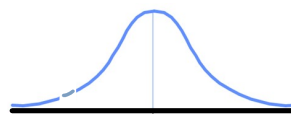
11. Assume that blood pressure readings are normally distributed with $\mu = 120$ and $\sigma = 8$. A researcher wishes to select people for a study but wants to exclude the top and bottom 10 percent. What would be the upper and lower readings to qualify people to participate in the study?