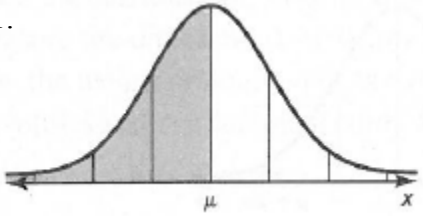


Algebra II
 Statistics 3

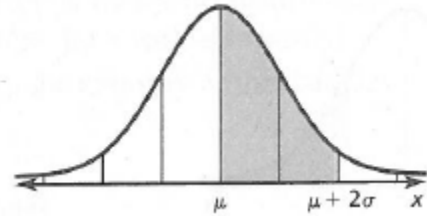
Name _____

For each of the following give the percent of area under the normal curve represented by the shaded region(s).

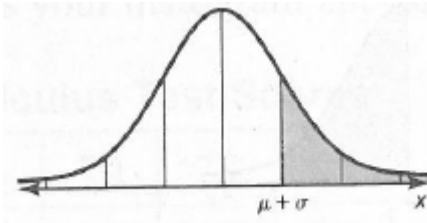
1.



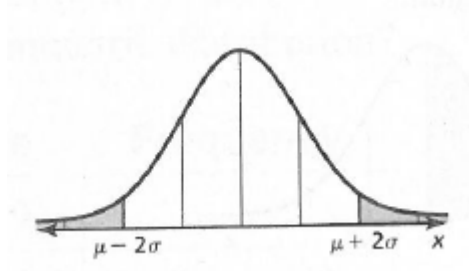
2.



3.



4.



A normal distribution has mean μ and standard deviation σ . Find the indicated probability for a randomly selected x-value from the distribution. Sketch and shade the normal curve.

5. $P(x \leq \mu - \sigma)$

6. $P(x > \mu + 2\sigma)$

7. $P(\mu - 2\sigma < x < \mu + \sigma)$

8. $P(\mu < x < \mu + 3\sigma)$

A normal distribution has a mean of 33 and a standard deviation of 4. Find the probability that a randomly selected x-value from the distribution is in the given interval. Use the 68-95-99.7 rule and sketch the normal curve.

9. between 29 and 37

10. At least 25

11. A busy time to visit a bank is during its Friday evening rush hours. For these hours, the waiting times at the drive through window are normally distributed with a mean of 8 minutes and a standard deviation of 2 minutes. You have no more than 11 minutes to do your banking and still make it to your meeting on time. What is the probability that you will be late for the meeting? (Sketch a normal curve and shade it)

12. The guayule plant, which grows in the southwestern United States and in Mexico, is one of several plants that can be used as a source of rubber. In a large group of guayule plants, heights of the plants are normally distributed with a mean of 12 inches and a standard deviation of 2 inches. (Sketch a normal curve and shade it)

a. What percent of the plants are taller than 16 inches?

b. What percent of plants are at most 13 inches?

c. What percent of plants are between 7 inches and 14 inches?

d. What percent of plants are at least 3 inches taller than or at least 3 inches shorter than the mean height?