

LESSON
6.3**Practice B**

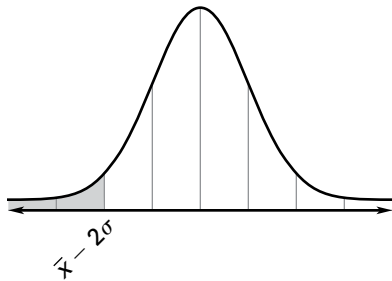
For use with the lesson "Use Normal Distributions"

A normal distribution has mean \bar{x} and standard deviation σ . Find the indicated probability for a randomly selected x -value from the distribution.

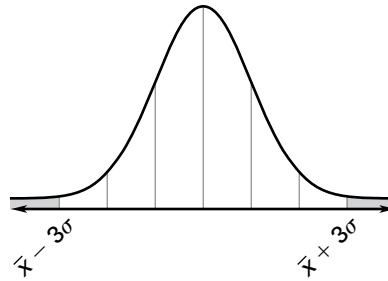
1. $P(x \geq \bar{x} + \sigma)$ 2. $P(x \leq \bar{x} + 2\sigma)$ 3. $P(x \geq \bar{x} - 3\sigma)$

Give the percent of the area under the normal curve represented by the shaded region.

4.



5.



A normal distribution has a mean of 27 and a standard deviation of 5. Find the probability that a randomly selected x -value from the distribution is in the given interval.

6. Between 22 and 32 7. Between 12 and 27 8. Between 17 and 37
9. At least 22 10. At least 37 11. At most 32

A normal distribution has a mean of 75 and a standard deviation of 10. Use the standard normal table on page 759 of your textbook to find the indicated probability for a randomly selected x -value from the distribution.

12. $P(x \leq 70)$ 13. $P(x \leq 52)$ 14. $P(x \leq 78)$
15. $P(x \leq 96)$ 16. $P(x \leq 44)$ 17. $P(x \leq 106)$
18. **Biology** The weights of adult male rhesus monkeys are normally distributed with a mean of 17 pounds and a standard deviation of 3 pounds. What is the probability that a randomly selected adult male rhesus monkey has a weight less than 14 pounds?

In Exercises 19 and 20, use the following information.

Apples The annual per person consumption of apples in the United States is normally distributed with a mean of 16 pounds and a standard deviation of 4 pounds.

19. Find the z -score for an annual per person consumption of 22 pounds.
20. What is the probability that a randomly selected person in the United States has an annual per person consumption of apples less than 22 pounds?