

LESSON
5.5**Practice A**

For use with the lesson "Solve Absolute Value Equations"

Evaluate the expression for the given value of the variable.

1. $2|x - 3| + 4; -5$

2. $3|2x + 8| - 10; 3$

3. $-4|x - 9| + 1; -6$

Match the equation with its solution.

4. $|x - 3| = 5$

5. $|x + 3| = 5$

6. $|x| + 5 = 6$

A. $x = -1$ and $x = 1$

B. $x = -8$ and $x = 2$

C. $x = 8$ and $x = -2$

Solve the equation.

7. $|x| = 7$

8. $|x| = 22$

9. $|x| = 1.5$

10. $|x + 2| = 9$

11. $|x - 4| = 1$

12. $|2x| = 24$

13. $|3x - 4| = 5$

14. $|4x + 6| = 18$

15. $2|x + 5| = 8$

Match the description with the appropriate equation.16. The absolute deviation of x from -8 is 2.

A. $|x - 8| = 2$

17. The absolute deviation of x from 8 is 2.

B. $|x - 2| = 8$

18. The absolute deviation of x from 2 is -8 .

C. $|x + 8| = 2$

19. The absolute deviation of x from 2 is 8.

D. $|x - 2| = -8$

Find the values of x that satisfy the definition of absolute value for the given value and the given absolute deviation.

20. Given value: 0; absolute deviation: 6

21. Given value: 3; absolute deviation: 4

22. Given value: 5; absolute deviation: 10

23. Given value: 2; absolute deviation: 4

24. Shampoo Prices The average price of the brand of shampoo that you buy is \$4.50 for a bottle that holds 15 fluid ounces. Depending on where you shop, the prices vary by as much as \$.15.

a. Write an absolute value equation that represents the minimum and maximum prices of the shampoo.

b. Find the minimum and maximum prices of the shampoo.

25. Calipers A caliper is a tool used for measuring objects as accurately as possible. The caliper shown below takes measurements with an absolute error of 0.02 millimeter. An object's width is measured using the caliper, which records a width of 14.5 millimeters. Find the minimum and maximum possible widths of the object.

