

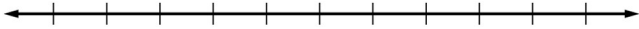
2.5 Paper Practice

Solving Equations Involving Absolute Value

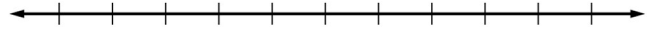
Examples 1 and 2

Solve each equation. Then graph the solution set.

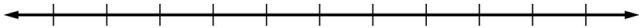
1. $|x + 3| = 2$



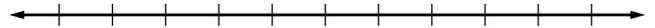
2. $|a - 4| = 3$



3. $|d - 4| = -2$



4. $|2w + 5| = 5$



Solve each equation.

5. $|3v + 5| = 8$

7. $|4c + 2| = -2$

6. $|t + 8| = 11$

8. $|2x + 11| = 3$

Solve each equation.

9. $|5m + 1| = 9$

11. $|r + 8| = 8$

10. $|7p + 2| = -7$

12. $|4w + 7| = 11$

Example 3

- 13. PENCILS** A company manufactures pencils that are 7.5 inches long. To pass quality inspection, the length of a pencil must be within $\pm \frac{1}{8}$ inch of the desired length. Write and solve an absolute value equation to find the minimum and maximum acceptable lengths of a pencil.

- 14. SURVEY** A group of students was asked about favorite colors, and 20% of the students said that their favorite color is red. There are about 3000 students in the school. If the margin of error is $\pm 2\%$, what is the range of the number of students who likely say that their favorite color is red?

Example 4**Write an equation involving absolute value for each graph.**