

**1-3****Study Guide and Intervention**

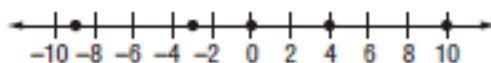
7NS2.5

***Integers and Absolute Value***

A number line can help you order a set of integers. When graphed on a number line, the smaller of two integers is always to the left of the greater integer.

**Example 1** Order the set of integers  $\{10, -3, -9, 4, 0\}$  from least to greatest.

Graph each integer on a number line.



The numbers from left to right are  $\{-9, -3, 0, 4, 10\}$ .

The absolute value of a number is the distance of that number from 0 on a number line.

**Example 2** Evaluate the expression  $|-20| + |10|$ .

$$\begin{aligned} |-20| + |10| &= 20 + |10| && \text{The absolute value of } -20 \text{ is } 20. \\ &= 20 + 10 && \text{The absolute value of } 10 \text{ is } 10. \\ &= 30 && \text{Simplify.} \end{aligned}$$

**Exercises**

Order each set of integers in each set from least to greatest.

- |                             |                            |
|-----------------------------|----------------------------|
| 1. $\{3, 0, -5, 1, 4\}$     | 2. $\{-6, -8, 3, -1, -4\}$ |
| 3. $\{2, 13, -11, -21, 5\}$ | 4. $\{31, 0, -34, -9, 7\}$ |

Evaluate each expression.

- |                    |                   |                  |
|--------------------|-------------------|------------------|
| 5. $ -13 $         | 6. $ 21 $         | 7. $ -3  +  -5 $ |
| 8. $ 9  +  -8 $    | 9. $ -13  +  15 $ | 10. $ 21 - 18 $  |
| 11. $ -11  -  -5 $ | 12. $ 4  -  -4 $  | 13. $ 23 + 15 $  |

Evaluate each expression if  $a = -6$ ,  $b = 4$ , and  $c = 5$ .

- |                |                |                |
|----------------|----------------|----------------|
| 14. $ a  + 14$ | 15. $ c - b $  | 16. $b +  c $  |
| 17. $ 3b $     | 18. $2 a  + c$ | 19. $ 2b + c $ |