NAME _____ DATE _____ PERIOD _____

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|.**

$\|-20\| + \|10\|$	$= 20 + \|10\|$	The absolute value of 220 is 20.
	$= 20 + 10$	The absolute value of 10 is 10.
	$= 30$	Simplify.

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. $|2b + c|$