



Name _____ Date _____

Integers

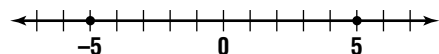
(pages 434–436)

An **integer** is any number from this set of the whole numbers and their opposites: $\{\dots -3, -2, -1, 0, 1, 2, 3, \dots\}$.

<p>Writing and Graphing Integers</p>	<ul style="list-style-type: none"> Integers that are greater than zero are positive integers. You can write positive integers with or without a + sign. Integers that are less than zero are negative integers. You write negative integers with a – sign. Zero is the only integer that is neither positive nor negative. Each integer has an opposite that is the same distance from zero but in the opposite direction on the number line.
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EXAMPLES

A Graph 5 and its opposite on a number line.



A number line always has arrows on both ends, with zero and at least one other number marked to show the size of a unit. Make a dot to show the integers you are graphing.

B Write the opposite of -12 .

The opposite of -12 is 12 units from zero, but on the opposite side of zero. Since -12 is at the left of zero, its opposite is $+12$, twelve units to the right of zero on a number line.

The opposite of -12 is $+12$ or 12.

Try These Together

1. Write an integer to represent a debt of \$9.

HINT: A debt can be represented by a negative integer.

2. Write an integer to represent a rise in temperature of 15 degrees.

HINT: You can represent a rise in temperature with a positive integer.

PRACTICE

Draw a number line from -10 to 10 . Graph each integer on the number line.

- | | | | |
|---------|---------|---------|-------|
| 3. 2 | 4. -4 | 5. -6 | 6. 5 |
| 7. -9 | 8. -1 | 9. 8 | 10. 3 |

Write an integer to describe each situation.

- | | |
|---------------------------------------|---|
| 11. The water in a lake rises 3 feet. | 12. A tennis ball drops 2 meters. |
| 13. The temperature falls 15 degrees. | 14. A person climbs 8 meters up a ladder. |

Write the opposite of each integer.

- | | | | |
|-----------|----------|-----------|-----------|
| 15. -16 | 16. -5 | 17. $+36$ | 18. $+11$ |
|-----------|----------|-----------|-----------|



19. Standardized Test Practice Which integer is the opposite of -25 ?

- | | | | |
|----------------|-------------|------------|---------------|
| A -25 | B 25 | C 5 | D -5 |
|----------------|-------------|------------|---------------|

Answers: 1. $-\$9$ 2. $+15$ 3–10. See Answer Key. 11. $+3$ 12. -2 13. -15 14. $+8$ 15. $+16$ 16. $+5$ 17. -36 18. -11 19. B