

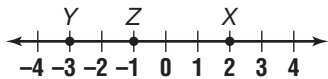
Graphing Integers on a Number Line

(Pages 52–57)

Integers are the **negative numbers** $\{-1, -2, -3, -4, \dots\}$ and whole numbers $\{0, 1, 2, 3, 4, \dots\}$. To **graph** a set of integers on a **number line**, locate the points named by those numbers and place a dot on the number line. The number that corresponds to a point on a number line is called the **coordinate** of that point. The **absolute value** of a number is its distance from zero on a number line, and is denoted by vertical bars on either side of the number. For example, $|-3| = 3$ and $|3| = 3$.

EXAMPLES

A Name the coordinates of X , Y , and Z .



The coordinate of X is 2, Y is -3 , and Z is -1 . The graph shows the set of integers $\{-3, -1, 2\}$.

B Evaluate $|-6| - |4|$.

$$|-6| - |4| = 6 - 4 \quad |-6| = 6, |4| = 4 \\ = 2$$

PRACTICE

Name the coordinate of each point.

1. A
2. B
3. C
4. D
5. E
6. F



Graph each set of numbers on a number line.

7. $\{-3, 5, -1\}$
8. $\{-4, 2, -5\}$
9. $\{3, -2, 4\}$
10. $\{0, -5, -3\}$
11. $\{-5, -4, -3, -2\}$
12. $\{-2, -1, 0, 1\}$

Replace each \bullet with $<$ or $>$ to make a true sentence.

13. $8 \bullet -6$
14. $0 \bullet -3$
15. $-2 \bullet -1$
16. $-5 \bullet 5$
17. $-4 \bullet -7$
18. $8 \bullet -9$

Evaluate each expression.

19. $|-3| + |-3|$
20. $|-5| - |1|$
21. $|-7| + |-6|$
22. $|-9| - |-2|$
23. $|4| + |-5|$
24. $|-8| - |-2|$



25. Standardized Test Practice Choose the set of numbers that is correctly ordered from least to greatest.

- A** $\{-1, -4, -5, -7\}$ **B** $\{-6, -1, 0, 4\}$ **C** $\{-1, -2, 0, 1\}$ **D** $\{5, -4, -3, -1\}$

Answers: 1. 1 2. -4 3. 5 4. 4 5. -1 6. -2 7. -12. See Answer Key. 13. < 14. < 15. < 16. < 17. < 18. < 19. 6 20. 4 21. 13 22. 7 23. 9 24. 6 25. B