

Lesson 1-2

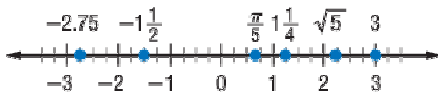
Example 1

Graph this set of numbers on a number line.

$$1-1\frac{1}{2}, 3, \sqrt{5}, \frac{\pi}{5}, -2.75, 1\frac{1}{4}$$

Solution

Draw a number line. Use a solid dot to graph each number.



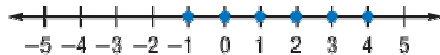
Example 2

Graph each set of numbers on a number line.

- a. the set of integers from -1 to 4 inclusive
- b. the set of real numbers from -3 to 2 inclusive
- c. {all real numbers greater than or equal to 3}
- d. {all real numbers less than -1}

Solution

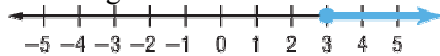
- a. The set consists of -1, 0, 1, 2, 3, 4.



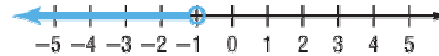
- b. The set consists of -3 and 2 and all the real numbers between.



- c. The set consists of 3 and all the real numbers greater than 3.



- d. The set consists of all real numbers less than 1.



Example 3

Evaluate each expression when $m = -3$.

a. $-m$

b. $-(-m)$

c. $|m|$

d. $|-m|$

e. $-|-m|$

Solution

a. Since $m = -3$, $-m = -(-3) = 3$.

b. Since $-m = 3$, then $-(-m) = -3$.

c. Since $m = -3$, then $|m| = |-3| = 3$.

d. Since $-m = 3$, then $|-m| = |3| = 3$.

e. Since $|-m| = 3$, then $-|-m| = -3$.