

## Lesson 5-8

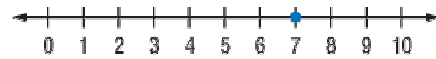
## Example 1

Solve the equation  $z + 8 = 15$  and graph the solution.

## Solution

$$\begin{aligned} z + 8 &= 15 \\ z + 8 - 8 &= 15 - 8 \\ z &= 7 \end{aligned}$$

The equation has one solution.  
Graph the solution on a number line by drawing a solid dot at the point 7.



## Example 2

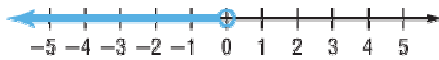
Graph each inequality.

a.  $x < 0$

b.  $r \geq -2$

## Solution

- a. The solution is all real numbers less than 0. Draw a solid arrow beginning at 0, pointing left. Since 0 is not part of the solution, draw an open dot at 0.



Check Let  $x = -3$   
 $x < 0$   
 $-3 < 0$

- b. The solution is all real numbers greater than or equal to -2. Draw a solid arrow beginning at -2, pointing right. Since -2 is part of the solution, draw a solid dot at -2.



Check Let  $r = 0$   
 $r \geq -2$   
 $0 \geq -2$

**Example 3**

**EDUCATION** No student in a history class scored higher than 86 on a chapter test. Write an inequality to describe the situation. Name three possible test scores.

**Solution**

Let  $s$  represent a student's test score.  $s \leq 86$

There are many possible test scores. Three possible scores are 42, 72, and 86.