7.6 (pg. 334)   Solve Inequalities (+ , -)

You can use a number line to show the solution set for one-step inequalities.

Example 1: Solve $x + 7 \geq 10$. Graph the solution on a number line.

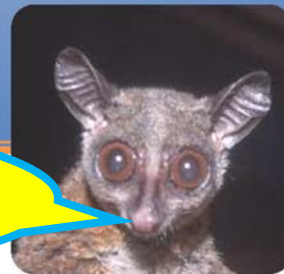$$x + 7 \qquad \geq \quad 10 \qquad\qquad \text{Write the inequality.}$$

$$x + 7 - 7 \geq 10 - 7 \qquad\qquad \text{Subtract 7 from each side.}$$
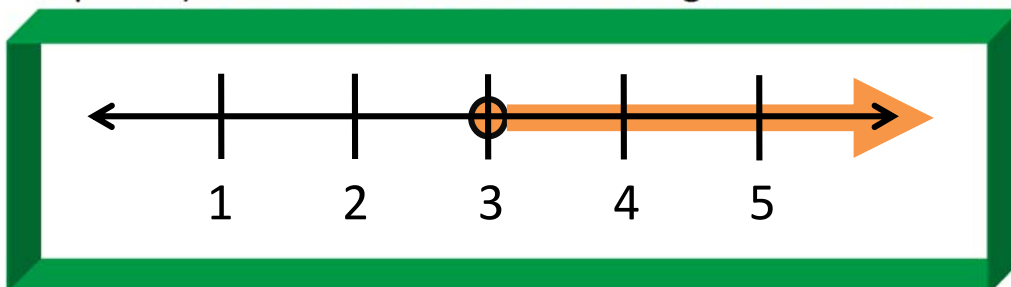
$$x \qquad\quad \geq \quad 3 \qquad\qquad \text{Simplify.}$$

I'm a Bush Baby!

The solution is x ≥ 3. To graph it, draw a filled in dot at 3 (because it is also equal to) and draw an arrow to the right on the number line.

Example 2: Solve $x - 3 < 9$. Graph the solution on a number line.

$x - 3 \quad < \quad 9$	Write the inequality.
$x - 3 + 3 < 9 + 3$	Add 3 to each side.
$x \qquad < \quad 12$	Simplify. The solution is $x < 12$

10   11   12   13   14