

## 7.7 (pg. 340) Solve Inequalities ( $x$ , $\div$ )

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



**Example 1:** Solve  $3x \geq 27$ . Graph the solution on a number line.

$$3x \geq 27$$

Write the inequality.

$$\frac{3x}{3} \geq \frac{27}{3}$$

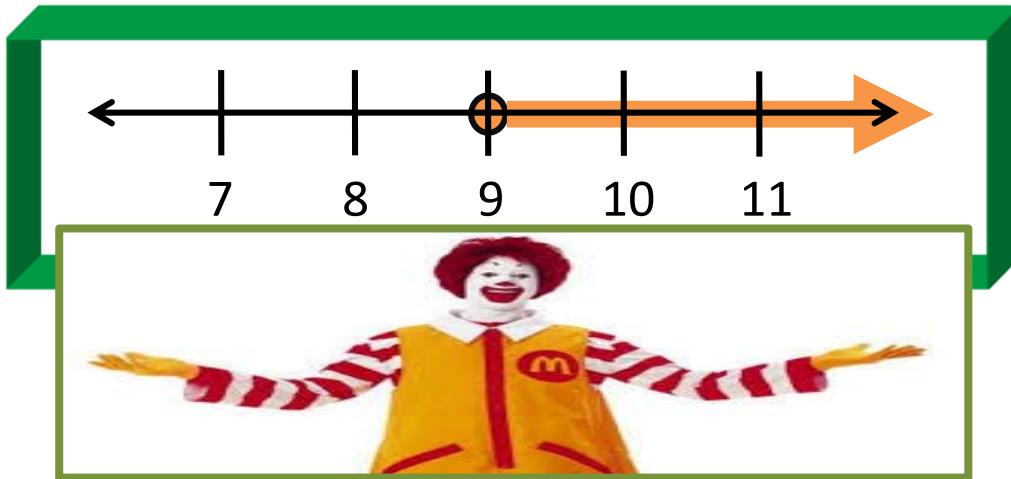
Divide both sides by 3.

$$x \geq 9$$

Simplify.



The solution is  $x \geq 9$ . To graph it, draw a filled in dot at 9 (because it is also equal to) and draw an arrow to the right on the number line.



**Example 2:** Solve  $\frac{m}{8} < 4$ . Graph the solution on a number line.

$$\frac{m}{8} < 4 \quad \text{Write the inequality.}$$

$$\frac{m}{8} \cdot 8 < 4 \cdot 8 \quad \text{Multiply 8 to each side.}$$

$$m < 32 \quad \text{Simplify. The solution is } m < 32$$

