

### 3.8 (page 113) Solving Inequalities: Multiplying or Dividing

#### Multiplication and Division Properties of Inequalities:

When you multiply or divide each side of a true inequality by a **POSITIVE** integer, the result remains true.

### 3.8 (page 113) Solving Inequalities: Multiplying or Dividing

Example: Solve each inequality. Check your solution.

$$\frac{4r}{4} \leq \frac{-72}{4}$$
$$r \leq -18$$

### 3.8 (page 113) Solving Inequalities: Multiplying or Dividing

Example: Solve each inequality. Check your solution.

$$8 \cdot \frac{m}{8} > 21 \cdot 8$$

$$m > 168$$

### 3.8 (page 113) Solving Inequalities: Multiplying or Dividing

Example: Solve each inequality. Check your solution.

$$34 \cdot \frac{x}{34} \leq -3 \cdot 34$$

$$x \leq -102$$

### 3.8 (page 113) Solving Inequalities: Multiplying or Dividing

#### Multiplication and Division Properties of Inequalities:

When you multiply or divide each side of an inequality by a **NEGATIVE** integer, you must **reverse the inequality symbol**.

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Example: Solve each inequality. Check your solution.

$$\begin{array}{r} -3y < 39 \\ \hline -3 & \quad -3 \end{array}$$

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$$y > -13$$

### 3.8 (page 113) Solving Inequalities: Multiplying or Dividing

Example: Solve each inequality. Check your solution.

$$\frac{-5z}{-5} > \frac{-65}{-5}$$

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$$z < 13$$

### 3.8 (page 113) Solving Inequalities: Multiplying or Dividing

Example: Solve each inequality. Check your solution.

$$-18 \cdot -20 < \frac{h}{-18} \cdot -18$$

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$$360 > h$$

$$h < 360$$