

Chapter 8 Lesson 7
Solve One-Step Inequalities

Addition and Subtraction Properties to Solve Inequalities: when you add or subtract the same number from each side of an inequality, the inequality remains true. (JUST LIKE IN CH. 7 WHEN WE DREW THE ROAD AND SOLVED EQUATIONS)

Multiplication and Division Properties to Solve Inequalities: When you multiply or divide each side of the inequality by the same POSITIVE number, the inequality remains true. (JUST LIKE IN CH. 7 WHEN WE DREW THE ROAD AND SOLVED EQUATIONS)

EXAMPLES:

Solve each inequality. Graph the solution on a number line.

$$\begin{array}{r|l} 2+y < 3 \\ 2 & -2 \\ \hline y < 1 \end{array}$$



2. $w - 1 < 4$



$$\begin{array}{r|l} w-1 < 4 \\ +1 & +1 \\ \hline w < 5 \end{array}$$

3. $7x > 56$



$$\begin{array}{r|l} x > 56 \\ 7 & 7 \\ \hline x > 8 \end{array}$$

4. $\frac{d}{3} \leq 2$



$$\begin{array}{r|l} \frac{d}{3} \leq 2 \cdot 3 \\ \frac{d}{3} & \cdot 3 \\ \hline d \leq 6 \end{array}$$

A community needs to raise at least \$5,000 to build a new skateboarding park. They are selling backpacks for \$25 each to raise the money. Write and solve an inequality to determine the minimum number of backpacks they need to sell in order to reach this goal.

$$\$5000 \geq 25b$$

$$\frac{5000}{25} \geq \frac{25b}{25}$$
$$200 \geq b$$

A sales associate at a computer store receives a bonus of \$100 for every computer he sells. He wants to make \$2,500 in bonuses next month. Write and solve an inequality to find the minimum number of computers he must sell. $\$2,500 \geq \$100c$

$$\frac{\$2500}{100} \geq \frac{\$100c}{100}$$

$$25 \geq c$$