Solving Single-Step Inequalities

Solving inequalities is very similar to solving equations BUT you must pay attention to the direction of the inequality symbol!!!

Operations that DO NOT change the direction of the inequality symbol:

- Adding a number to both sides
- Subtracting a number from both sides
- Multiplying both sides by a positive number
- Dividing both sides by a positive number

Operations that DO change the direction of the inequality symbol:

- Multiplying both sides by a negative number
- Dividing both sides by a negative number

Examples

Solve each of the following:

Review: $2x = -10$

New: $2x > -10$

Example 2

Solve each of the following:

Review: $-4x = -16$

New: $-4x \leq -16$

Example 3

Solve each of the following:

Review: $-5 = \frac{x}{3}$

New: $-5 < \frac{x}{3}$

Example 4

Solve each of the following:

Review: $x - 3 = 2$

New: $x - 3 \geq 2$

Practice the following: Page 357 #5, 6, 7