

Assignment

Write

Explain how solving an inequality is similar to and different from solving an equation.

Remember

To solve an inequality means to determine what value or values will replace the variable to make the inequality true.

Practice

- Match each inequality with the correct solution.
 - $x < -2$
 - $x < 2$
 - $x > -2$
 - $x > 2$
 - $4x + 12 < 20$
 - $55 < 35 + 10x$
 - $-\frac{3}{2}x + 12 > 15$
 - $-8x < 16$
- Solve each one-step inequality and graph the solution set on a number line.
 - $x + 7 \geq 13$
 - $-\frac{x}{4} \leq \frac{5}{2}$
 - $3 < \frac{x}{-8}$
 - $-4 > x - 3$
 - $18.3 > 6.1x$
 - $-10x \geq 45$
- Solve each two-step inequality and graph the solution set on a number line.
 - $-17 < 3 - 5x$
 - $-500 \leq 11x - 60$
 - $21 - 9x \geq -6$
 - $-x + 38 < 59$
- Carole has \$53.95 and she washes cars for \$8 each. Carole wants to attend a musical that costs \$145.75.
 - Write and solve an inequality to determine the minimum number of cars Carole must wash to be able to buy the ticket to the musical.
 - Is the answer to the question that same as the solution to the inequality? Explain.
- David has \$15 to spend at the gourmet candy store. He wants to buy gummy bears and jelly beans. Gummy bears are \$5.25 per pound and jelly beans are \$3.90 per pound. If David already has $1\frac{3}{4}$ pounds of jelly beans, how many pounds of gummy bears can he buy? (Weights are measured to the nearest hundredth.) Write and solve an inequality to determine the maximum number of pounds of gummy bears David can buy.

Stretch

Solve each inequality and graph the solution set on a number line.

- $7(4x + 9) - 13 \geq -87$
- $0.25(3 - x) < 0.375$
- $78 < -9x - 3(-56 + 12x)$
- $0.20x - 0.08(x - 10) \leq 24.80$

Review

Solve each two-step equation.

1. $2(3x + 4) = 19$

2. $-3.2x + 9.1 = 4.62$

Rewrite each linear expression by factoring out the coefficient of the variable.

3. $-2x + 7$

4. $3x - 12$

Use properties to rewrite each expression with the fewest possible terms.

5. $\left(\frac{6}{7}x + 4\frac{1}{3}\right) + \left(-1\frac{1}{2}x - 9\right)$

6. $(10.7x - 19.2) - (81.6x - 33.6)$