# Solving Two-Step Inequalities

LEVEL 1: The Basics

Q1: Solve each inequality. Write your answer and graph the solution on a number line.

- ❖ $2x + 3 > 11$

- ❖ $2x + 7 < 15$

- ❖ $4x - 5 \leq 15$

- ❖ $4x + 2 \geq 14$

- ❖ $\frac{x}{3} + 2 \geq 6$

- ❖ $2x + 6 < 12$

- ❖ $\frac{x}{5} - 1 < 4$

- ❖ $2x + 7 < 15$

- ❖ $5x - 8 > 7$

- ❖ $10 + 3x > 19$

- ❖ $2x + 3 > 11$

- ❖ $8 + 2x \leq 14$

- ❖ $-2x + 3 > 11$

- ❖ $2x + 3 > 7$

- ❖ $3x + 9 \leq -3$

- ❖ $3x - 2 \leq 13$

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**LEVEL 2: Dive Deeper**

**Q1: Solve each inequality. Some involve negative numbers or fractions**

❖ $-3x + 4 < 16$

❖ $-4x - 1 \geq 7$

❖ $5 - 2x \geq 11$

❖ $-2x + 5 > 1$

❖ $\frac{x}{-4} + 6 \leq 8$

❖ $3x - 7 < -4$

❖ $12 - x > 15$

❖ $-4x + 2 \leq 10$

❖ $\left(\frac{x}{-2}\right) - 1 > 3$

❖ $5x - 8 \geq -3$

❖ $2x - 9 < -5$

❖ $-5x - 10 \leq 0$

❖ $-6x + 7 > 13$

❖ $-2x + 3 < 9$

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LEVEL 3: Mastering the Concept

Q1: Solve each inequality. Graph the solution on a number line.

❖ $\frac{1}{2}x + 3 > 7$

❖ $0.4x - 2 \geq 2$

❖ $0.3x - 2 < 1$

❖ $-3(y - 1) \leq 12$

❖ $\frac{2}{3}x + 4 \leq 10$

❖ $-3(x - 4) + 7 > 19$

❖ $0.5x - 5 \geq 0$

❖ $\frac{1}{2}(y + 8) - 5 \leq -1$

❖ $\frac{3}{4}x + 2 > 5$

❖ $\frac{-5x}{-2} - 19 \leq -14$

# Solving Two-Step Inequalities

## Extra worksheet:

1) Fill in the blank to make the inequality true.

    a. $2 \times \_\_\_\_ + 3 > 9$

    b. $\_\_\_\_ - 4 < 5$

    c. $3 \times \_\_\_\_ - 2 \leq 7$

    d. $4 \times \_\_\_\_ + 2 \geq 6$

2) Determine if the given value makes the inequality true. Write True or False.

    a. $2x + 3 > 7$      when      $x = 3$

    b. $3x - 2 \leq 13$      when      $x = 5$

    c. $5x - 5 > 10$      when      $x = 4$

    d. $x - 2 \leq 6$      when      $x = 9$

3) Word Problems:

    a. Three times a number minus 7 is at least 2.

    b. The sum of a number and 9, divided by 2, is greater than 6.

    c. The difference between a number and 5, divided by 3, is less than 4.