

Warm-Up

What is the solution set for the equation $3 + x^2 = 7$ if the replacement set is $\{-2, -1, 0, 1, 2\}$

$$\begin{aligned} \{-2, 2\} \quad 3 + (-2)^2 &= 3 + 4 = 7 \\ \dots \quad 3 + (2)^2 &= 3 + 4 = 7 \\ \{2\} & \quad \{7\} \end{aligned}$$

$$\begin{aligned} 3 + (-2)^2 \\ = 3 + 4 = 7 \end{aligned}$$

$$\begin{aligned} 3 + (0)^2 \\ = 3 + 0 = 3 \end{aligned}$$

Sep 16-11:58 AM

Clear Learning Objective

You will be able to solve equations with one variable on both sides.

Sep 16-12:01 PM

Sep 23-11:45 AM

Step 1: Distribute

Example:

★ Look for parentheses!

$$x + 2(x + 3) = -5(x + 6) - 4$$

$$x + 2x + 6 = -5x - 30 - 4$$

Sep 16-12:07 PM

Do not solve, just practice the step shown above.

$$1) 8x - 4(x - 9) = -9(x - 16) + 9(x - 1)$$

$$8x - 4x + 36 = -9x + 16 + 9x - 9$$

$$2) \frac{1}{2}(4x - 16) = -4(3x - 2)$$

$$2x - 8 = -12x - 8 + 8$$

Sep 16-3:01 PM

Step 2: Combine Like Terms

Example continued:

$$x + 2(x + 3) = -5(x + 6) - 4$$

$$x + 2x + 6 = -5x - 30 - 4$$



$$3x + 6 = -5x - 34$$

Sep 16-3:02 PM

Do not solve, just practice the step shown above. Combine Like Terms on each side.

$$3. 8x - 4x - 17 = -19x - 3x + 8 + x$$

$$4. 5x - 2 + 15 - 4x = 2x - 28 - 13 + 8x$$

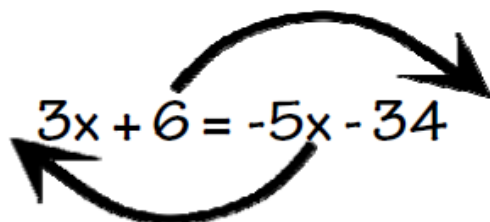
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3: Move Variables and Constants to Opposite Sides

Example continued:

$$x + 2(x + 3) = -5(x + 6) - 4$$

$$x + 2x + 6 = -5x - 30 - 4$$


$$3x + 6 = -5x - 34$$

$$3x + 5x = -34 - 6$$

Sep 16-3:03 PM

Do not solve, just practice the steps shown above. Move the variables and constants to opposite sides of the equals sign.

$$5. -4x - 67 = -19x - 8$$

$$6. 15x - 150 = 23x - 290$$

$$7. -15 = 18x - 290$$

Sep 16-3:03 PM

4: Collect Like Terms.

5: Solve for the Variable by
Multiplying or Dividing.

Example continued:

$$x + 2(x + 3) = -5(x + 6) - 4$$

$$x + 2x + 6 = -5x - 30 - 4$$

$$3x + 6 = -5x - 34$$

$$3x + 5x = -34 - 6$$

$$8x = -40$$

$$\frac{8x}{8} = \frac{-40}{8}$$

$$x = -5$$



Sep 16-3:04 PM

Follow the example above and
solve for x showing every step:

$$8) 3x + 4(x - 3) = -5(2x - 6) + 9$$

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