

Solving for a variable on both sides.

Steps to solve when a variable is on both sides of the equation.

Step 1: Distribute (if needed)

Step 2: Combine like terms (if any)

Step 3: Move all variables to one side of the equal sign by doing the opposite operation.

Step 4: Move all whole numbers to the other side of the equal sign by doing the opposite operation:

Step 5: Solve for the variable

Example: $5(x + 2) = 3x - 2x + 6$

Step 1: Distribute

Step 2: Combine like terms

Step 3: Move the variable

Step 4: Move the whole number

Step 5: Solve for x

$$\begin{array}{r}
 \begin{array}{c} \curvearrowright \\ \curvearrowleft \end{array} \\
 5(x + 2) = 3x - 2x + 6 \\
 5x + 10 = \underline{3x - 2x} + 6 \\
 5x + 10 = x + 6 \\
 \begin{array}{r|l}
 -x & -x \\
 \hline
 4x + 10 = & 6 \\
 -10 & -10 \\
 \hline
 4x = & -4 \\
 \frac{4x}{4} & \frac{-4}{4} \\
 x = & -1
 \end{array}
 \end{array}$$

1. $-5x + 13 = 3x + 85$

2. $-6x + 10 = 3x + 91$

3. $x - 6 = -2x + 3$

4. $6x + 7 = 13 + 7x$

Equations - Day 4

Notes

Name _____

Date _____ Period _____

5. $-7x - 3x + 2 = -8x - 8$

6. $-8x + 4(1 + 5x) = -6x - 14$

7. $4x - 40 = 7(-2x + 2)$

8. $3(1 - 3x) = 2(-4x + 7)$

9. $7(5x - 4) - 1 = 14 - 8x$

10. $-10 + x + 4 - 5 = 7x - 5$