

2.1 Simplifying Each Side of An Equation

like terms - Same "last name"

- Same variables and same exponents

Like terms

$2x, -4x$ $5y, 8y$

$-7, 8$

In an equation: • Combine like terms
• Undo the operations and solve

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Examples: Solve and check.

1. $\underline{2x} + \underline{3x} + 4 = -6$

$$5x + 4 = -6$$

$$5x = -6 - 4$$

$$5x = -10$$

$$x = \frac{-10}{5}$$

$$x = -2$$

2. $\underline{7x} + \underline{3} - \underline{2x} + \underline{1} = 69$

$$7x - 2x + 3 + 1 = 69$$

$$5x + 4 = 69$$

$$5x = 69 - 4$$

$$5x = 65$$

$$x = \frac{65}{5}$$

$$x = 13$$

$$\begin{array}{r|l} 7x+3-2x+1 & 69 \\ \hline 7(13)+3-2(13)+1 & 69 \\ 91+3-2(13)+1 & 69 \\ 91+3-26+1 & 69 \\ 94-26+1 & 69 \\ 68+1 & 69 \\ 69 & 69 \checkmark \end{array}$$

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3. $5 + \underline{2x} - \underline{3x} = 9$

$$5 - 1x = 9$$

$$-1x = 9 - 5$$

$$-1x = 4$$

$$x = \frac{4}{-1}$$

$$\boxed{x = -4}$$

4. $-13 = 4b - 3 + b + 5$

$$-13 = 4b + b - 3 + 5$$

$$-13 = 5b + 2$$

$$-13 - 2 = 5b$$

$$-15 = 5b$$

$$\frac{-15}{5} = b$$

$$\boxed{-3 = b}$$

HOMEWORK

Worksheet - HW 2.1 - Day 4

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