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$$15 \cdot \frac{5v-4}{10} = \frac{4}{5} \cdot \frac{10}{1} \quad \frac{40}{5}$$

$$\frac{5v-4}{10} = \frac{8}{5}$$

$$\frac{5v}{5} = \frac{12}{5}$$

$$v = \frac{12}{5}$$

$$19. \quad 12 - \frac{4}{5}(x+15) = 4$$

$$12 - \frac{4x}{5} - \frac{60}{5} = 4$$

$$\cancel{12} - \frac{4x}{5} - \cancel{12} = 4$$

$$\cancel{5} - \frac{4x}{\cancel{5}} = 4 \cdot 5$$

$$\frac{-4x}{-4} = \frac{20}{-4}$$

$$x = -5$$

1-3 Variable on Both Sides

Objectives:

- I can combine like terms from opposite sides of an equation
- I can solve an equation with variables on both sides

Vocabulary: like terms, distribute, inverse operations

Combining like terms:

$$\begin{array}{r}
 3 - 2a = 3a + 4 \\
 +2a \quad +2a \\
 \hline
 3 = 5a + 4 \\
 -4 \quad -4 \\
 \hline
 -1 = 5a \\
 \frac{-1}{5} = \frac{5a}{5} \\
 \boxed{-\frac{1}{5} = a}
 \end{array}$$

$$\begin{array}{l}
 3 - 2a + 1 = 3a + 4 \\
 3 - 2a + 1 = 3a + 4 - 1
 \end{array}$$

$$\textcircled{3} \quad \textcircled{-2a} \quad \textcircled{3a} \quad \textcircled{4}$$

1. look for variables
2. bigger variable
↳ move variable

$$\leftarrow \begin{array}{ccc} | & | & | \\ -2 & 0 & 3 \end{array} \rightarrow$$

Evaluate the following equations for the indicated variable

$$2 + 5k = 3k - 6$$

$$-3k - 3k$$

$$2 + 2k = -6$$

$$2k = -8$$

$$k = -4$$



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

$$6x + 5 = 6x - 15$$

$$3(2b - 1) - 7 = 6b - 10$$

$$5a + c = -8a \text{ for } a$$

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$$7 - 2x = (4 + 5x) - (3 + 8x)$$

Combine like terms!

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

$$2(k + 4m) - 2m = 9 + k$$

Bonnie and Clyde both solved the same equation but got different answers. Which student did the problem correctly? For the student that did not get the right answer, what was their mistake?

Bonnie 19

$$-2(m + 5) - m = 6 + m$$

$$-2m - 10 - m = 6 + m$$

$$\underline{-3m} - 10 = 6 + m$$

$$-10 = 6 + 4m$$

$$-16 = 4m$$

$$m = -4$$

Clyde 1

$$-2(m + 5) - m = 6 + m$$

$$\underline{-2m} - 10 - \underline{m} = 6 + m$$

$$\underline{-3m} - 10 = 6 + m$$

$$-10 = 6 + 2m$$

$$-16 = 2m$$

$$m = -8$$

Solve $A = \frac{1}{2}bh$ for b

$$\star \frac{1}{2}(8x-4) = 6x$$

$$\frac{1}{2} \cdot \frac{8x}{1} - \frac{4}{1} \cdot \frac{1}{2} = 6x$$

$$\frac{4x}{1} - 2 = 6x$$

$$-4x \quad -4x$$

$$\frac{-2}{2} = \frac{2x}{2}$$

$$\boxed{-1 = x}$$

A candy company spends \$2000 per day in building rental plus \$.40 per candy bar made. If the candy bars sell for \$.80 per candy bar, how many candy bars must the company sell each day to make a profit?

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HW 1-3

10. $7c + 12 = -4c + 78$

11. $2m - 13 = -8m + 27$

12. $9x - 4 = 2x + 3$

13. $6 + 3t = 8t - 14$

20. $3(3m - 2) = 2(3m + 3)$

21. $6(3a + 1) - 30 = 3(2a - 4)$