Algebra Bellwork - October 18, 2011

Solve the equations

1) $a + 5 = 1$

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

3) $5(p - 7) = 10$

4) $-8y + 4 + 3y = 19$

Check your answers:

2) 8

4) 3

6) 4

8) -3

10) 4

16) $\frac{2}{3}$

17) 2

18) 4

24) 46

25) 7

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1) $a + 5 = 1$

$-5 \quad -5$

$a = -4$

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

$+6 \quad +6$

$4 \cdot \frac{x}{4} = -2 \cdot 4$

$x = -8$

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3) $5(p-7)=10$

$5p-35=10$

$+35 \quad +35$

$\frac{5p}{5}=\frac{45}{5}$

$p=9$

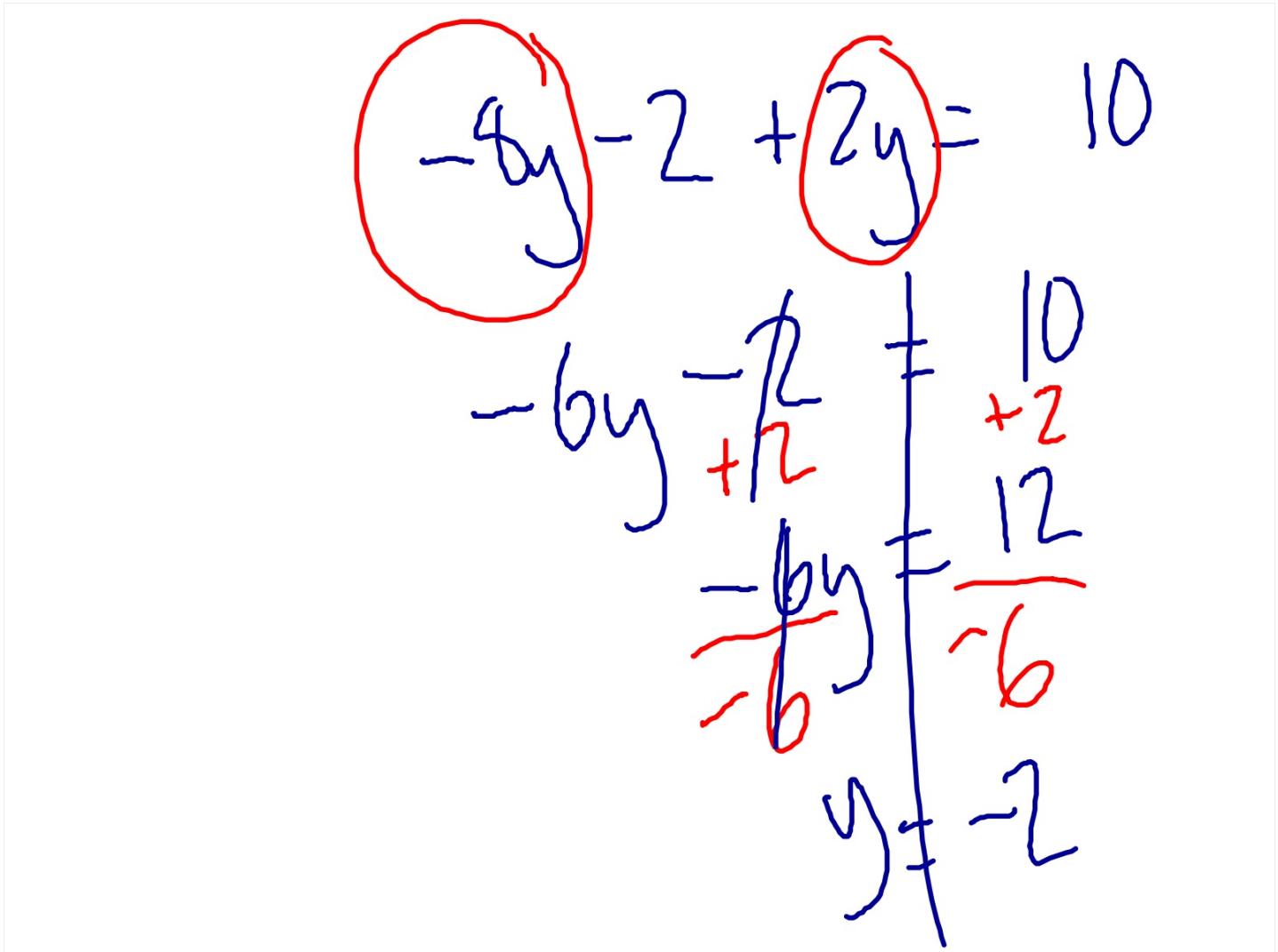
4) $-8y+4+3y=19$

$-5y+4=19$

$-4 \quad -4$

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

$y=-3$


-6y - 2 + 2y = 10
-6y - 2 = 10
+2 +2
-6y = 12
-6 -6
y = -2

Summary

Steps for Solving a Multi-Step Equation

Step 1 Clear the equation of fractions and decimals.

Step 2 Use the Distributive Property to remove parentheses on each side.

Step 3 Combine like terms on each side.

Step 4 Undo addition or subtraction.

Step 5 Undo multiplication or division.

Writing Miles has saved $40. He wants to buy a CD player for $129 in about four months. To find how much he should save each week, he writes $40 + 16x = 129$. Explain his equation.

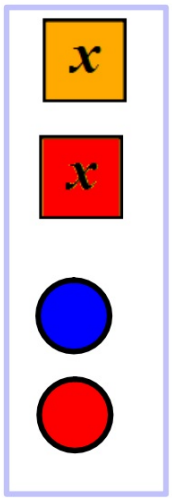
Started

weeks

$ saved each week

$$\frac{16x}{16} = \frac{89}{16}$$

$x \approx 5.4$



$8x - 21 = 6x + 3$

$-6x \quad -6x$

$2x - 21 = 3$

$+21 \quad +21$

$\frac{2x}{2} = \frac{24}{2}$

$x = 12$

$8x - 21 = 6x + 3$

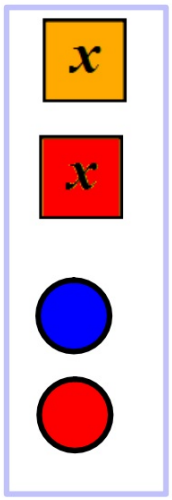
$-8x \quad -8x$

$-21 = -2x + 3$

$-3 \quad -3$

$\frac{-24}{-2} = \frac{-2x}{-2}$

$12 = x$



$5x - 2 = 7x + 8$

$-7x \quad -7x$

$-2x - 2 = 8$

$+2 \quad +2$

$-2x = 10$

$\frac{-2x}{-2} = \frac{10}{-2}$

$x = -5$

$5x - 2 = 7x + 8$

$-5x \quad -5x$

$-2 = 2x + 8$

$-8 \quad -8$

$\frac{-10}{2} = \frac{2x}{2}$

$-5 = x$

76. $2y + 4 = -6$

77. $3x - 15 = 33$

78. $-4n + 20 = 36$

79. $-8 - c = 11$

80. $3x + 5 = 12$

81. $-4y - 3 = 15$

82. $8m - 4 = 8$

83. $-p + 3 = 10$

$-8 - C = 11$

$+8 \quad +8$

$-C = 19$

$-1 \quad -1$

$C = -19$

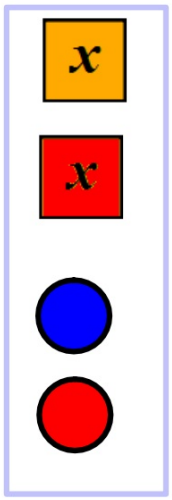
1. $6x - 2 = x + 13$

2. $5y - 3 = 2y + 12$

3. $4k - 3 = 3k + 4$

4. $5m + 3 = 3m + 9$

27. $6x = 4(x + 5)$



$$10 - 8y = 2(5 - 4y)$$