Solving Linear Systems by Elimination/Combinations

1. x + 3y = 12-3y + x = 30

X + 3y = 12
x - 3y = 30
2x = 42
2
X=21
7 - 21

Checklist:

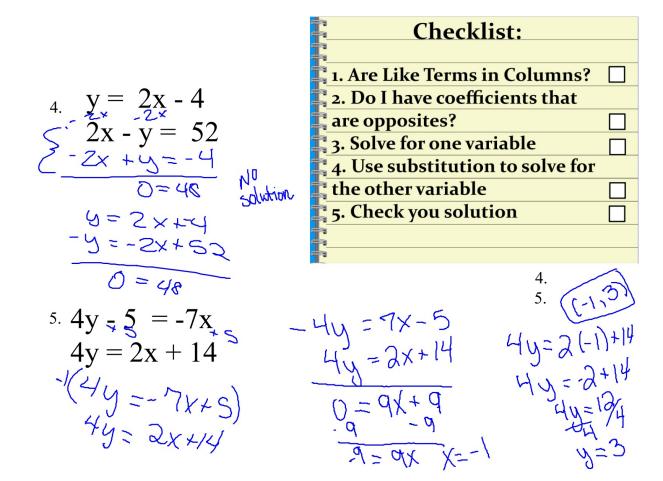
- 1. Are Like Terms in Columns?
- 2. Do I have coefficients that are opposites?
- 3. Solve for one variable
- 4. Use substitution to solve for the other variable
- 5. Check you solution

21+34=12	1
30=-9	y=-3

2. 3.

2. 3x + 2y = 82. 3x + 2y - 6 2y = 12 - 5x 2y = 12 - 5(2) 6y = -2x + 30 45x + 2y = 8 -1 2y = 12 - 10 42x + 2y = -10 5x + 2y = 12 -10x + 3y = -10 5x + 2y = 12 -10x + 3y = -10 5x + 2y = 12 -10x + 3y = -10 6x + 15y = 10

3. -6x + 3y = -6



- 6. The drama club is selling gift baskets to raise money for new costumes. During the fall play, they sold a combined 3 regular gift baskets and 4 deluxe gift baskets, earning a total of \$227. During the spring musical, they sold 6 regular gift baskets and 2 deluxe gift baskets, earning a total of \$208.
 - a. Identify the variables

x: cost of a regular gift basket

y: cost of a deluxe gift basker

b. Write and solve a system to determine the price of each type of gift basket.

$$3x + 4y = 227 \longrightarrow 3(1) + 4y = 227$$

$$-2(6x + 2y = 208)$$

$$3x + 4y = 227$$

$$-227$$

$$-12x - 4y = -416$$

$$-9x = -189$$

$$-9x = -189$$

$$-9x = -21$$

c. Explain your solution in the context of the problem.

The regular giftt basket sold for \$21 and the deluxe gift basket sold for \$41.