

**Section 7.3: Solving Linear Systems by Elimination/Addition (called *Linear Combinations* in your book)**

When **variables are not x and y**,  
the final ordered pair solution  
the variables should be put in  
***alphabetical order***

**Solutions:**

If variable = #: \_\_\_\_\_

If # ≠ #: \_\_\_\_\_

If # = #: \_\_\_\_\_

EXAMPLE: Solve the linear system using elimination.

*No change needed, just add:*

$$1) \begin{cases} 4x + 3y = 16 \\ 2x - 3y = 8 \end{cases}$$

*One equation needs to be multiplied:*

$$2) \begin{cases} -2x + 3y = -19 \\ -7x + y = -19 \end{cases}$$

*Both equations need to be multiplied:*

$$3) \begin{cases} 3x + 5y = 6 \\ -4x + 2y = 5 \end{cases}$$

*Equations need to be rearranged*

$$4) \begin{cases} 3x + 2y = 8 \\ 2y = 12 - 5x \end{cases}$$

$$5) \begin{cases} 5m - 10n = -25 \\ -m + 2n = 5 \end{cases}$$

$$6) \begin{cases} 3m + n = -8 \\ -3m + 4n = -2 \end{cases}$$

$$7) \begin{cases} -7x - 8y = -23 \\ 5x + 10y = -5 \end{cases}$$

$$8) \begin{cases} 5y = 10x + 5 \\ 7y - 7 = 14x \end{cases}$$

$$9) \begin{cases} 9g - 7h = 0 \\ 4g - 4h = -8 \end{cases}$$

$$10) \begin{cases} 6a - 7b = 9 \\ 12a - 14b = 10 \end{cases}$$

$$11) \begin{cases} \frac{1}{2}x + y = -2 \\ \frac{3}{2}x + 3y = 6 \end{cases}$$

$$12) \begin{cases} -16y - 32 = 8x \\ 20 = -10y - 10x \end{cases}$$

Textbook pages:

Page 411 – 416

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Homework:

**Examples 1 & 6:**

p. 414 #8 – 15

**Examples 2, 3, 5, 7, 9, 10, 12:**

p. 414 #16 – 24

p. 430 #18 – 23

**Examples 4, 8, 11:**

p. 414 #25 – 30

**Mixed All Examples:**

p. 415 # 31 – 42