Starter Challenge

Take a TCAP Spiral from the front stool and work on Monday's 3 questions.

Systems of Equations Using Elimination

I CAN and I WILL solve systems of equations using elimination.

Combination/Elimination

When both linear equations of a system are in the standard form **Ax+By=C**, you can solve the system using elimination. You combine the equations to eliminate one of the variables.

Solve the system:

$2x+5y=17$

$+\quad 6x-5y=-9$

$8x=8$

$\frac{8x}{8}=\frac{8}{8}$

$x=1$

$2(1)+5y=17$

$2+5y=17$

$-2 \quad -2$

$5y=15$

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

$y=3$

$(1,3)$

Ex. 1)

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

$$+$$

$$5x = 10$$

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

$$x = 2$$

$$2(2) + y = 6$$

$$4 + y = 6$$

$$-4 \quad -4$$

$$y = 2$$

$$(2, 2)$$

On Your Own!

$$\begin{cases} x + 3y = 5 \\ -x + y = 3 \end{cases}$$

Solve the system: $(2x-3y=61)\cdot -1$

$2x+y=-7$

$-2x+3y=-61$

$+\ 2x+y=-7$

$4y=-68$

$\frac{4y}{4}=\frac{-68}{4}$

$y=-17$

$2x+(-17)=-7$

$+17 \quad +17$

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

$x=5$

$(5,-17)$

Ex. 2) $3x + y = 20$

$(x + y = 12)\,-1$

$3x + y = 20$

$+\ -x - y = -12$

$\frac{2x}{2} = \frac{8}{2}$

$x = 4$

$4 + y = 12$

$-4 \quad -4$

$y = 8$

$(4, 8)$

On Your Own:

$$x + 2y = 7$$

$$-3x + 2y = 3$$

Practice!

1. $\begin{cases} -x + y = 5 \\ x - 5y = -9 \end{cases}$

2. $\begin{cases} x + y = 12 \\ x - y = 2 \end{cases}$

3. $\begin{cases} 2x + 5y = -24 \\ 3x - 5y = 14 \end{cases}$

4. $\begin{cases} x - 10y = 60 \\ x + 14y = 12 \end{cases}$

5. $\begin{cases} 5x + y = 0 \\ 5x + 2y = 30 \end{cases}$

6. $\begin{cases} -5x + 7y = 11 \\ -5x + 3y = 19 \end{cases}$

Exit Ticket!

Pretend you have to explain to an absent student what we did today. Write down the steps you would tell them to take to solve a systems problem using elimination.