Which Method is the BEST to Solve a System?

There are three ways to solve systems. But how do you know which method works best??

GRAPHING

when the equations are in $y=mx+b$ OR $y=\#$ and $x=\#$

Ex: $y=2x+4$, $y=-x-10$

SUBSTITUTION

- when equation is $x=$ or $y=$
- when # in front of x or y is 1

Ex: $y=x+4$, $x+2y=10$

ELIMINATION

- equations in Standard Form
- can cancel out x or y

Ex: $x+y=4$, $-x+2y=10$

For each of the following systems, solve the system by ANY method. Explain WHY you chose the method and solve!

1. $x+y=2$, $2x-y=-5$

Elimination

$+$ $2x-y=-5$

$3x=-3$

$\frac{3x}{3}=\frac{-3}{3}$

$x=-1$

$-1+y=2$

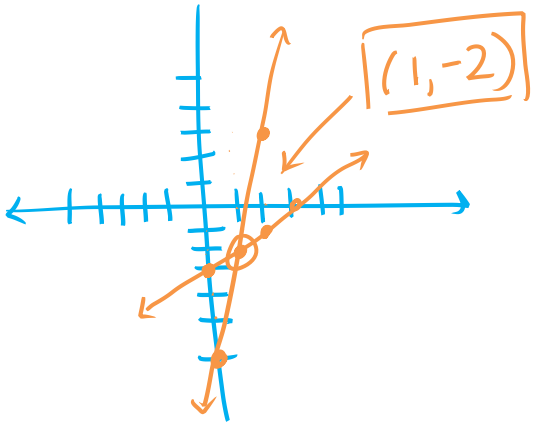
$+1 \quad +1$

$y=3$

$(-1,3)$

2. $y=4x-6$, $y=x-3$

Graphing/substitution



3. $y=2x-2$, $y-3x=0$

SUBSTITUTION

$2x-2-3x=0$

$-x-2=0$

$-x=2$

$x=-2$

$y=2(-2)-2$

$y=-4-2$

$y=-6$

$(-2,-6)$

4. $2x-y=-14$, $y=3x+6$

SUBSTITUTION

$2x-(3x+6)=-14$

$2x-3x-6=-14$

$-x-6=-14$

$-x=8$

$x=8$

$y=3(8)+6$

$y=24+6$

$y=30$

$(8,30)$

Think-Pair-Share: Discuss the following questions with your partner.

1. What did you notice about each of the solutions to your systems compared to the solutions that your partner found?

2. How is it possible to start with equations that look different, yet you still come up with the same solution to a system?

3. Which method do you feel most and least confident with? Why?

4. What will you do to improve your ability in the method you feel least confident with?