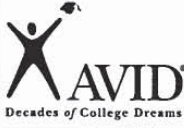


Cornell Notes 	Topic/Objective: <u>Solving Systems of Equations</u> <u>(S o E)</u>	Name: Class/Period: Alg. 1, 2 ^o Date: Oct. 12, 2009
Essential Question: <u>How do you solve (S o E) by substitution?</u> <u>→ solution will be an ordered pair like (3, 2)</u>		
Questions: <u>What is a system of linear eq.?</u> <u>What are the steps to solving S o E by sub.?</u>	Notes <u>System of linear equations (S o E) - 2 or more linear equations in the same variables.</u> <u>Steps to solving by sub:</u> if possible, 1. <u>Solve</u> 1 eq for its variable. <u>Solve</u> for variable w/ coeff. of 1 or -1. 2. <u>Sub</u> the expression from Step 1 into other eq. 3. <u>Solve</u> that eq. to get value of 1st var. 4. <u>Sub</u> value of 1st var. into original eq. & solve for 2nd var. 5. <u>Write</u> the values from #3 & #4 as an ordered pair. 6. <u>Check</u> ? <u>Ex. Solve</u> $y = 3x + 2$ (Eq. #1) $x + 2y = 11$ (Eq. #2) <u>Step 1</u> $y = 3x + 2$ ← Eq. 1 already solved for y. $x + 2y = 11$	
Summary:		

Questions:	Notes:
Now do I	Step 2
Apply the steps	$y = 3x + 2$
of solving (SoE)	$x + 2y = 11$
to the (SoE)	$x + 2(3x + 2) = 11$
$y = 3x + 2$	Step 3
$x + 2y = 11$	$x + 6x + 4 = 11$
	$7x + 4 = 11$
	$\begin{array}{r} -4 \quad -4 \\ \hline 7x = 7 \end{array}$
	$\begin{array}{r} 7x = 7 \\ \hline x = 1 \end{array}$
	Step 4
	$y = 3x + 2$
	$y = 3(1) + 2$
	$y = 3 + 2$
	$y = 5$
	Step 5
	$(1, 5)$
	* Check : ?
	Eq. 1
	$y = 3x + 2$
	$5 = 3(1) + 2$
	$5 = 3 + 2$
	$5 = 5 \checkmark$
	Eq. 2
	$x + 2y = 11$
	$1 + 2(5) = 11$
	$1 + 10 = 11$
	$11 = 11 \checkmark$
	Sub. $3x + 2$ for y in 2nd eq
	Simplify (Use Dist.) (Collect terms)
	Subtract 4 from both sides
	$\div$ by 7 $\rightarrow$ to isolate the variable
	Write 1st eq.
	Sub. 1 for x
	Simplify for y
	Write SoE as ordered pair
	on my test, do I need to check my answers in both equations? or just one?
Summary:	

Questions:

How do I apply
the process
for solving

$$y = 3x + 2$$

$$x + 2y = 11$$

to the (SoE)

$$y = 2x + 1$$

$$2y - x = 11?$$

Notes:

Step 1

$$y = 2x + 1$$

$$2y - x = 11$$

Step 2

$$2(2x + 1) - x = 11$$

$$4x + 2 - x = 11$$

$$3x + 2 = 11$$

$$\begin{array}{r} -2 \\ -2 \end{array}$$

$$\frac{3x}{3} = \frac{9}{3}$$

$$x = 3$$

Step 4

$$y = 2(3) + 1$$

$$y = 6 + 1$$

$$y = 7$$

Step 5

(3, 7)-ordered pair

Step 5

Check:

Eq. 1

$$7 = 2x + 1$$

$$7 = 2(3) + 1$$

$$7 = 6 + 1$$

$$7 = 7 \checkmark$$

Eq. 2

$$2y - x = 11$$

$$2(7) - 3 = 11$$

$$14 - 3 = 11$$

$$11 = 11 \checkmark$$

(Same process for both SoE)

How is solving
SoE using sub
diff. than
graphing?

Graphing not good for getting an exact
intersection point.
Substitution - get an ordered pair.

Summary:

A system of linear equations is two or more linear equations with the same variables. The sub. method has you isolate one variable in an equation and plug it into the other equation. Following these five steps and checking my answer will ensure the my ordered pair is the correct solution.