

$$\begin{array}{r}
 3) \\
 \hline
 2
 \end{array}
 \begin{array}{l}
 6x + 2y = 2 \\
 (-3x + 3y = -9)
 \end{array}
 \rightarrow
 \begin{array}{l}
 6x + 2y = 2 \\
 -6x + 3y = -9
 \end{array}
 +
 \begin{array}{l}
 6x + 2y = 2 \\
 -6x + 3y = -9
 \end{array}
 = 18$$

$$\frac{8y}{8} = \frac{-16}{8}$$

$$y = -2$$

Self Scoring Scale

- 4- I can *summarize* the concepts and explain it to others.
- 3- I can *apply* the concepts to answer questions correctly.
- 2- I can *apply* the concepts but with some *mistakes*.
- 1- I *need help* to know how to apply the concepts.
- 0- I *can't* apply the concepts even with help.

7.3 Solve by Linear Combinations (multiply both equations)

Goals: • Solve a system of linear equations by linear combinations.

EQ: What are the steps for solving by linear combinations?

The Unit Organizer NAME _____
DATE _____

④ BIGGER PICTURE Algebra 1.5

② LAST UNIT/Experience Inequalities	① CURRENT UNIT Systems	③ NEXT UNIT/Experience Exponents
⑧ Student Activities or Assignments	⑤ UNIT MAP	
7.1 7.2 7.3 7.4 7.5 7.6	<p style="text-align: center;"> 1. Using addition 2. Using multiplication first 3. Arranging like terms first </p>	
⑦ UNIT SELF-TEST QUESTIONS	1. How do you solve a system by graphing? 2. How is the substitution method used to solve a system? 3. How do you use linear combinations to solve a system? 4. How can you represent and solve a real world situation with a system of equations? 5. How do you determine the number of solutions a system has? 6. How do you graph a system of linear inequalities and determine the solution area?	⑨ UNIT RELATIONSHIPS Solve Graph Represent Apply

Use linear combinations to solve the system of linear equations. Then check your solution.

a) $2(3x - 5y = 15) \rightarrow -6x + 10y = -30$
 $3(2x + 4y = -1) \rightarrow +6x + 12y = -3$

$22y = -33$
 $\frac{22y}{22} = \frac{-33}{22}$
 $y = -\frac{3}{2}$

$2x + 4(-\frac{3}{2}) = -1$
 $2x - 6 = -1$
 $+6 \quad +6$
 $2x = 5$
 $\frac{2x}{2} = \frac{5}{2}$
 $x = \frac{5}{2}$

$(\frac{5}{2}, -\frac{3}{2})$
 $3(\frac{5}{2}) - 5(-\frac{3}{2}) = 15$
 $\frac{15}{2} + \frac{15}{2} = 15$
 $\frac{30}{2} = 15$
 $15 = 15 \checkmark$

\therefore Yes, $(\frac{5}{2}, -\frac{3}{2})$ is sol'n

b) $3(6x - 23 = -5y) \rightarrow -18x + 69 = 15y$
 $2(9x + 32 = 2y) \rightarrow +18x + 64 = 4y$

$133 = 19y$
 $\frac{133}{19} = \frac{19y}{19}$
 $y = 7$

$6x - 23 = -5(7)$
 $6x - 23 = -35$
 $+23 \quad +23$
 $6x = -12$
 $\frac{6x}{6} = \frac{-12}{6}$
 $x = -2$

$(-2, 7)$ $9(-2) + 32 = 2(7)$
 $14 = 14 \checkmark$

\therefore Yes, $(-2, 7)$ is sol'n

$9(6x - 23 = -5y)$
 $6(9x + 32 = 2y)$

$$c) \begin{cases} 3(2x - 3y = 0) \\ 2(3x - 2y = 5) \end{cases} \rightarrow \begin{array}{r} -6x + 9y = 0 \\ + 6x - 4y = 10 \\ \hline \end{array}$$

$$3x - 2(2) = 5$$

$$3x - 4 = 5$$

$$+4 \quad +4$$

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

$$x = 3$$

\therefore Yes, $(3, 2)$ soln

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

$$y = 2$$

$(3, 2)$

$$2(3) - 3(2) = 0$$

$$0 = 0 \checkmark$$

$$d) \begin{cases} -4(5x + 4y = 9) \\ 5(4x + 5y = 9) \end{cases}$$

$$5(-7x + 3y = 7)$$

$$7(5x + 4y = 11)$$

Summary

EQ: What are the steps for solving by linear combinations?

7.3 Homework

- 1) Finish wkst
(Due @ End of Hr)
- 2) 7.3 p.414 #16-24