

Be sure to use PROPER mathematical notation and show some steps. Use back of page if needed.

1. Solve the following system using the three methods we've learned so far and answer appropriately!!!

$$3y = 4x - 9$$

$$x + 3y = 6$$

a. Graphing (4.1)

$$\begin{aligned} 3y &= 4x - 9 \\ y &= \frac{4}{3}x - 3 \\ \text{Slope} &= \frac{4}{3} \\ (0, -3) &\text{ y-int} \end{aligned}$$

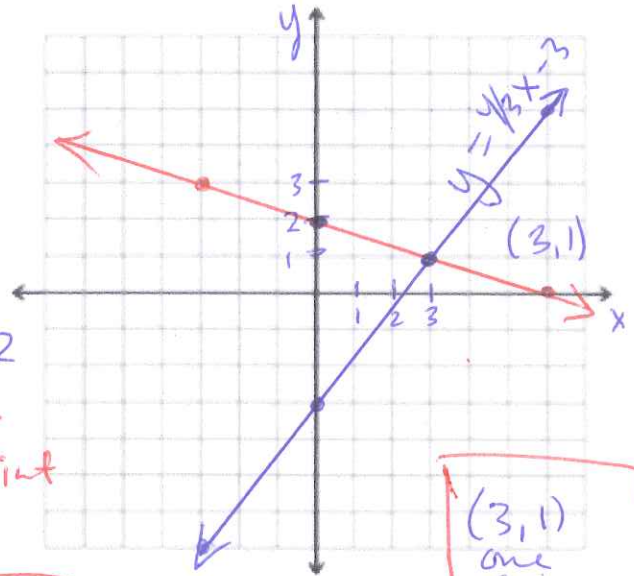
$$x + 3y = 6$$

$$3y = -x + 6$$

$$y = -\frac{1}{3}x + 2$$

$$\text{Slope} = -\frac{1}{3}$$

$$(0, 2) \text{ y-int}$$



b. Substitution (4.2)

$$\textcircled{A} \quad x + 3y = 6$$

$$x = -3y + 6$$

$$x = -3(1) + 6$$

$$x = -3 + 6$$

$$x = 3$$

$$(3, 1) \text{ one soln}$$

$$\textcircled{B} \quad 3y = 4x - 9$$

$$3y = 4(-3y + 6) - 9$$

$$3y = -12y + 24 - 9$$

$$3y = -12y + 15$$

$$+12y \quad +12y$$

$$15y = 15$$

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

$$y = 1$$

*They should all be the SAME!!

c. Elimination (4.3)

Standard Form
 $Ax + By = C$

$$\begin{aligned} 3y &= 4x - 9 \\ -4x &\quad -4x \end{aligned}$$

$$-4x + 3y = -9$$

$$x + 3y = 6$$

already in
Standard form

$$-4x + 3y = -9$$

$$-1(x + 3y = 6) \quad (-1)$$

$$-4x + 3y = -9$$

$$-x - 3y = -6$$

$$-5x = -15$$

$$x = \frac{-15}{-5}$$

$$x = 3$$

$$x + 3y = 6$$

$$3 + 3y = 6$$

$$3y = 6 - 3$$

$$3y = 3$$

$$y = 1$$

$$(3, 1) \text{ one soln}$$