Name: _____ **Linear Systems Stations Review**

1)

$2(-2x+8y=6)$

$4x+2y=6$

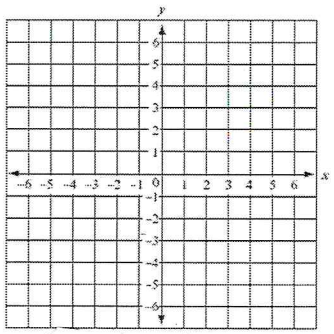
$-4x+4y=12$

$4x+2y=6$

$6y=18$

$\frac{6y}{6}=\frac{18}{6}$

$y=3$



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

$-2x+6=6$

$-2x=0$

$x=0$

$(0,3)$

I chose elimination method because each equation was in standard form.

2) $y=-3x+4$

$3x+y=-4$

$3x+(-3x+4)=-4$

$3x-3x+4=-4$

$4=-4$ False!

This system has NO solution (s).

3)

$x-y=4$

$y=3x-2$

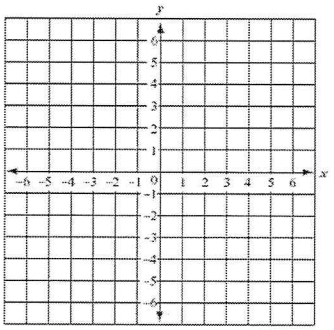
$x-(3x-2)=4$

$x-3x+2=4$

$-2 \quad -2$

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

$x=-1$



$y=3(-1)-2$

$y=-3-2$

$y=-5$

$(-1,-5)$

I chose substitution method because one variable was alone.

4)

$y=4x+2$

$y-2=4x$

$(4x+2)-2=4x$

$4x+2-2=4x$

$\frac{4x}{4}=\frac{4x}{4}$

$x=x$

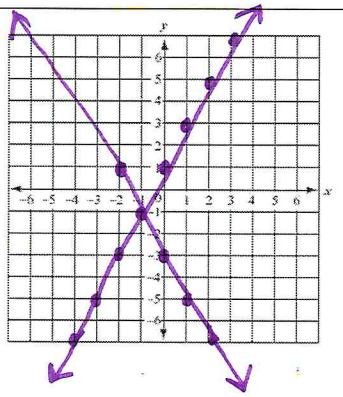
This system has infinite! solution (s).

5)

$y=2x+1$

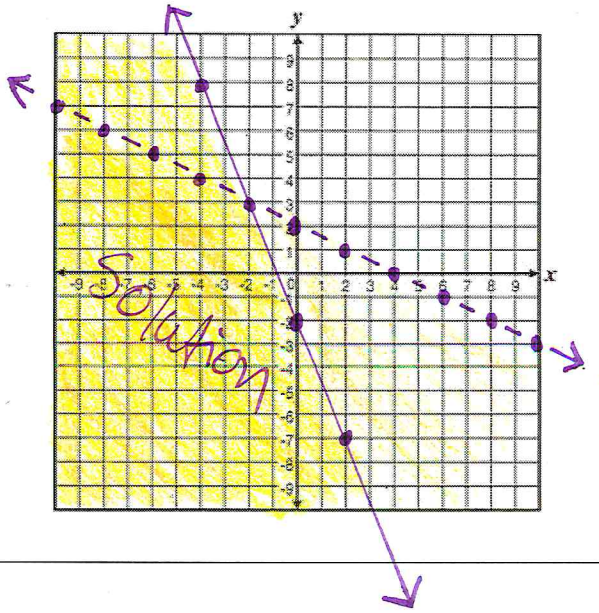
$y=-2x-3$

$(-1,-1)$



I chose graphing method because each equation was in slope int. form.

6) Clearly shade the region representing the solution to the system of inequalities.



7)

		Yes	No	Explain
A	(0, 0)		X	not in shaded region
B	(-2, 6)	X		in shaded region
C	(-4, 1)		X	on dashed line
D	(0, 3)	X		on solid line

8) **Define Variables:** x = case of juice
y = case of water

Equation 1: $6x + y = 135$ (-2)

Equation 2: $4x + 2y = 110$

$-12x - 2y = -270$

$4x + 2y = 110$

$-8x = -160$

$x = 20$

$6(20) + y = 135$

$120 + y = 135$

$-120 \quad -120$

$y = 15$

Solution (Ordered Pair): (20, 15)

Solution (Sentence): cases of juice cost $20 and cases of water cost $15.

9) **Define Variables:** x = miles driven
y = total cost

Equation 1: $y = 50 + 0.12x$

Equation 2: $y = 40 + 0.20x$

$50 + 0.12x = 40 + 0.20x$

$-40 \quad -40$

$10 + 0.12x = 0.20x$

$-0.12x \quad -0.12x$

$10 = 0.08x$

$125 = x$

$y = 50 + 0.12(125)$

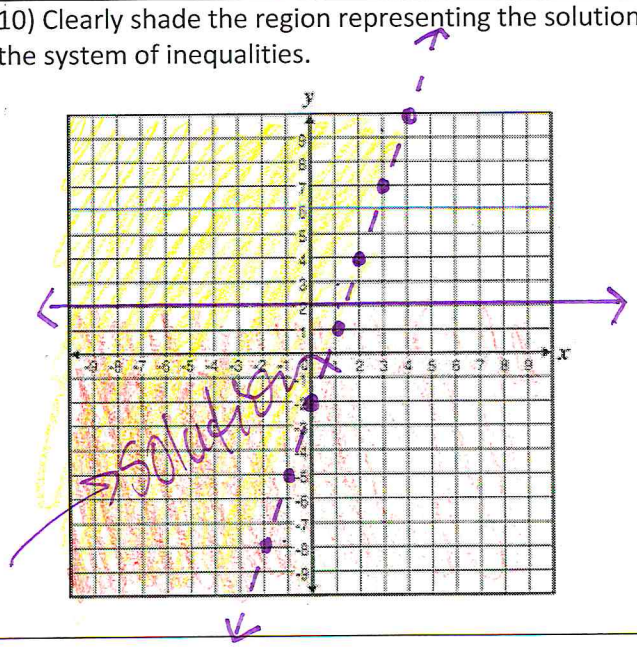
$y = 50 + 15$

$y = 65$

Solution (Ordered Pair): (125, 65)

Solution (Sentence): After 125 miles the cost will be $65.

10) Clearly shade the region representing the solution to the system of inequalities.



11) Clearly shade the region representing the solution to the system of inequalities.