Name: _____ Date: _____

CW # 3-2: Algebra 1 - Solve Systems of Equations Review for Test (chapter 7) 50 points

$-x + 3y = 6$ *and* $4x + 3y = -9$

$-1x + 3y = 6$

$+1x \quad +1x$

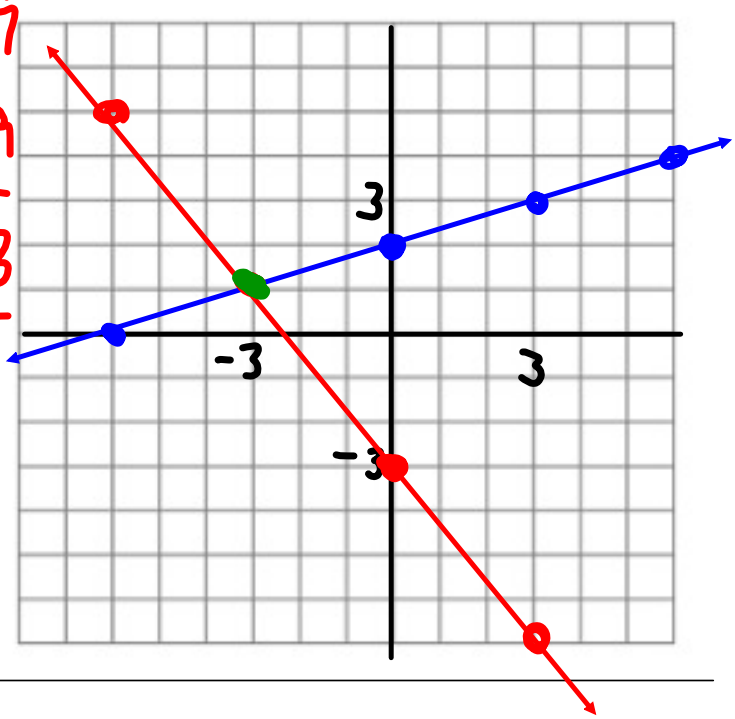
$3y = 1x + 6$

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

$4x + 3y = -9$

$3y = -4x - 9$

$y = \frac{-4}{3}x - 3$



$(-3, 1)$

2. Solve the following system of equations by **substitution method**. Be sure to show all work.

$-4x - 2y = 8$

$-2x + y = 20 \rightarrow y = 2x + 20$

$+2x \quad +2x$

$-4x - 2(2x + 20) = 8$

$-4x - 4x - 40 = 8$

$-8x - 40 = 8$

$-8x = 48$

$x = -6$

$y = 2(-6) + 20$

$y = -12 + 20$

$y = 8$

$(-6, 8)$

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3. Solve the following system of equations by **elimination method**. Be sure to show all work.

$4(3x + y = 4)$ → $12x + 4y = 16$

$3x - 4y = 14$ → $+(3x - 4y = 14)$

$15x = 30$

$x = 2$ → $3(2) + y = 4$

$6 + y = 4$

$y = -2$

$(2, -2)$

4. Solve the following system of equations by **elimination method**. Be sure to show all work.

$-3(5x + 4y = -14)$ → $-15x - 12y = 42$

$5(3x + 6y = 6)$ → $+(15x + 30y = 30)$

$18y = 72$

$y = 4$ ←

$3x + 6(4) = 6$

$3x + 24 = 6$

$3x = -18$

$x = -6$

$(-6, 4)$

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Write and solve a system of equations.

Brenda's school is selling tickets to a spring musical. On the first day of ticket sales the school sold 3 senior citizen tickets and 9 child tickets for a total of $75. The school took in $67 on the second day by selling 8 senior citizen tickets and 5 child tickets. What is the price each of one senior citizen ticket and one child ticket?

$8(3x+9y=75)$

$-3(8x+5y=67)$

$24x+72y=600$

$-24x-15y=-201$

$57y=399 \rightarrow y=7$

x → # Senior ticket

y → $ child ticket

$3x+9(7)=75$

$3x+63=75$

$3x=12$

$x=4$

Senior ticket cost $4 and child ticket cost $ 7

6. Solve the system of Inequalities by graphing. When you complete the graphing, state one ordered pair that would be a solution tot the system. Be sure to show all work and to label all information.

$3x+2y \geq -2$

$1x+2y \leq 2$

$3x+2y \geq -2$

$2y \geq -3x-2$

$y_1 \geq -\frac{3}{2}x-1$

$2y \leq -1x+2$

$y_2 \leq -\frac{1}{2}x+1$