Key

Name:_____ Period:_____ Date:_____

Algebra I Pre-AP 6.5 – 6.6 Quiz

Which method would be the most efficient way to solve the following problems? Explain why and do not solve.

1. $3x - 5y = 7$
$2x + 5y = 13$

elimination with addition b/c ±5 on "y".

2. $y = 3x - 24$
$5x - y = 8$

Substitution b/c "y" is defined in terms of "x" in 1st equation

Determine the best method to solve each system of equations. Then solve the system.

3. $5(5x + 3y = 16)$ → $25x + 15y = 80$
$3(3x - 5y = -4)$ → $+\ 9x - 15y = -12$
$34x = 68$
$x = 2$
$5x + 3y = 16$
$5(2) + 3y = 16$
$10 + 3y = 16$
$3y = 6$
$y = 2$
(2, 2)

4. $4x + y = 24$
$+\ 5x - y = 12$
$9x = 36$
$x = 4$
$4x + y = 24$
$4(4) + y = 24$
$16 + y = 24$
$y = 8$
(4, 8)

5. $6x - y = -145$
$x = 4 - 2y$
(-22, 13)
$6(4 - 2y) - y = -145$
$24 - 12y - y = -145$
$24 - 13y = -145$
$-13y = -169$
$y = 13$
$x = 4 - 2y$
$= 4 - 2(13)$
$x = -22$

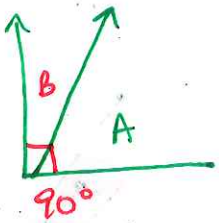
6. Anya makes 14 baskets during her game. Some of these baskets were worth 2-points and others were worth 3-points. In total, she scored 30 points. Write and solve a system of equations to find how many 2-points baskets she made.

let x = # 2pt baskets
let y = # 3pt. baskets

$-2(x + y = 14) \Rightarrow -2x - 2y = -28$
$2x + 3y = 30$
$+\ 2x + 3y = 30$
$y = 3$

Anya made 2-3pt baskets
& 12 - 2pt baskets

7. Angles A and B are complimentary angles. Angle A is 3 degrees less than twice angle B. What is the measure of each angle?



90°

$A + B = 90°$
$A = 2B - 3$

$2B - 3 + B = 90°$
$3B - 3 = 90$
$3B = 93$
$B = 31°$

$A = 90° - 31°$
$= 59°$

8. How many liters of 15% acid and 33% acid should be mixed to make 40 liters of 21% acid solution?

let x = # liters 15%
let y = # liters 33%

$x + y = 40 \Rightarrow x = 40 - y$
$.15x + .33y = .21(40)$
$.15(40 - y) + .33y = 8.4$
$6 - .15y + .33y = 8.4$

13 1/3 liters 33%
26 2/3 liters 15%

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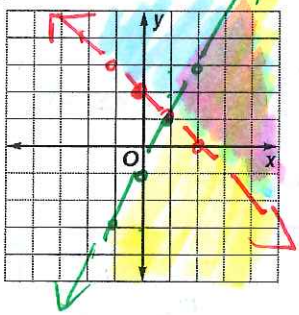
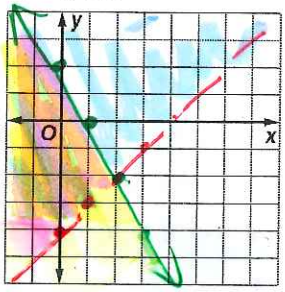
Algebra I Pre-AP 6.5 – 6.6 Quiz

Graph the solution set for the following system of linear inequalities. State a solution and state a non-solution.

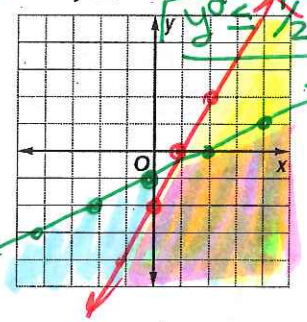
9. $y < 2x - 1$
$y > 2 - x$



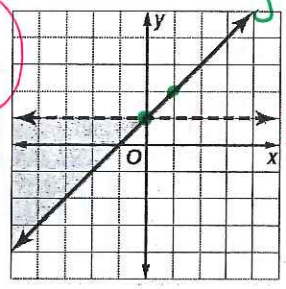
10. $y > x - 4$
$2x + y \leq 2$



11. $2x - y \geq 2$
$x - 2y \geq 2$



12. Write a system of inequalities that represents the solution region shown on the following graph:



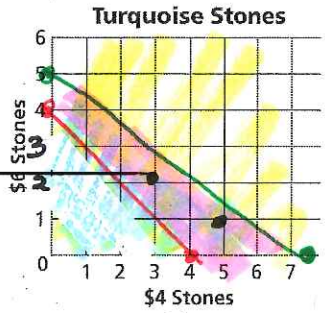
13. Diego started an exercise program in which each week he works out at the gym between 4.5 and 6 hours and walks between 9 and 12 miles.

a. Write a system of inequalities and then graph to show the number of hours Diego works out at the gym and the number of miles he walks per week.

b. List three possible combinations of working out and walking that meet Diego's goals.

14. Emily wants to buy turquoise stones on her trip to New Mexico to give to at least 4 of her friends. The gift shop sells stones for either \$4 or \$6 per stone. Emily has no more than \$30 to spend.

a. Write a system of inequalities and then graph showing the numbers of each price of stone Emily can purchase.



b. List three possible solutions.