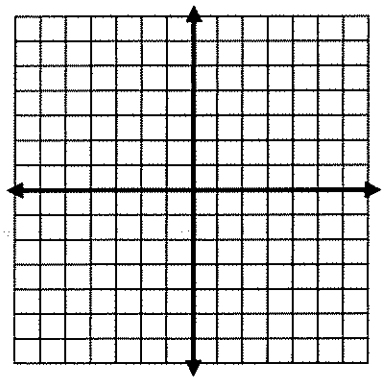
Practice Test #6
Algebra P3

Name:

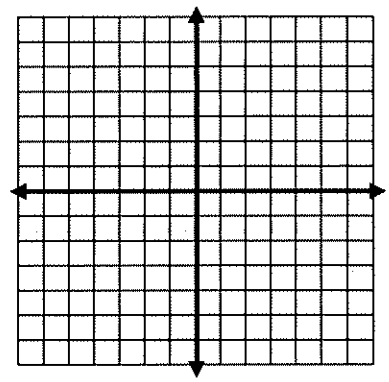
A non-graphing calculator is allowed for this test.

1. Solve by graphing.

$$x = -3$$
$$2y + x = 1$$

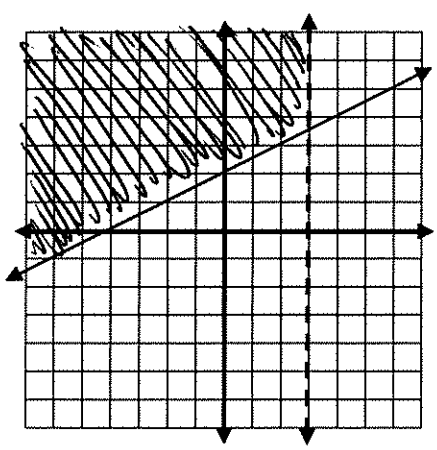


2. Graph the solutions to the linear inequality $3x - 2y < 6$.



3. Solve using a system of equations. Any method is okay.
A chemist mixed a 10% salt solution with a 45% salt solution and got 25 liters of a 30% salt solution. How much of each did she mix together originally?

4. Write a system of inequalities that would create the graph given.



5. Give the equation of a line perpendicular to $3x - 2y = 4$ but through the point (-3, -6).

6. Solve for x. If it is an inequality, graph the solution set.

a. $-4x > 8 \quad OR \quad 5x - 1 > 4$

b. $|3x - 4| \leq 8$

c. $4|x| - 2 = 3$

d. $|x| \geq 2$

e. $-4 < -3x + 2 \leq 8$

f. $|3x| + 6 \leq 4$

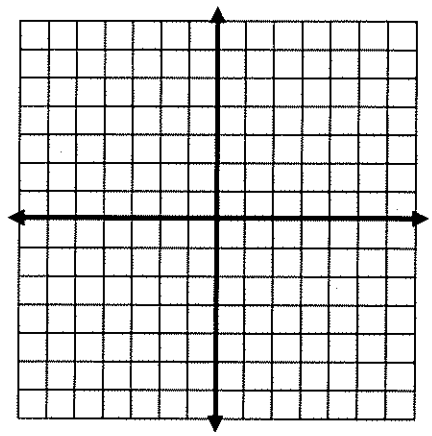
g. $-3(x-4) + 2x > 4x + 3$

h. $|2x + 3| - 1 > 8$

7. a. Graph the system of linear inequalities.

$y \leq -2x+3$

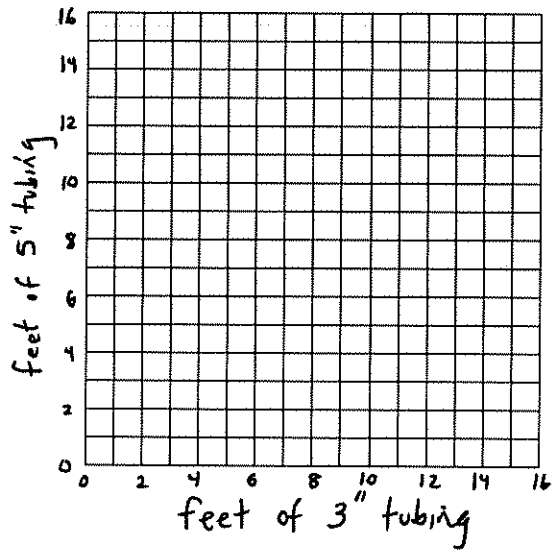
$2x-3y>3$



b. Give one point that is a solution to the system above and one point that is not a solution.

solution: not a solution:

8. Mallory needs to buy tubing for a plumbing job. The 3" tubing costs $4 per foot, while the 5" tubing costs $6 per foot. She can spend up to $60 for the job she's working on. Write an inequality and graph it. Then give three possible solutions.




Inequality:

Three solutions:

9. Simplify. Answers should not have negative or zero exponents.

a. $4^{-2}$ b. $7^{0}$ c. $(-3)^{-4}$

d. $3x^{-5}$ e. $\dfrac{2}{x^{-3}}$ f. $2^{-1}$

g. $\dfrac{x^{2}}{y^{-7}}$ h. $a^{3}b^{-4}$ i. $7x^{0}$