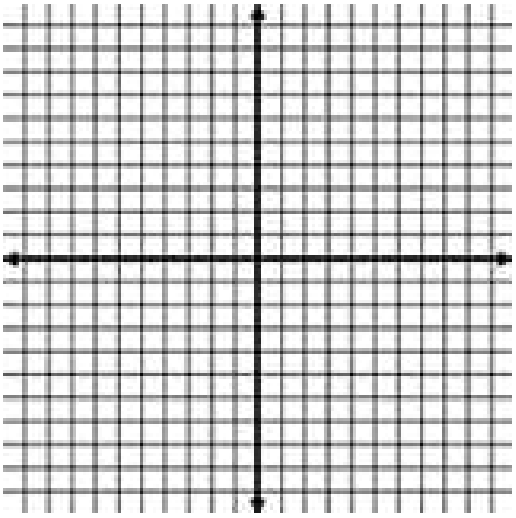
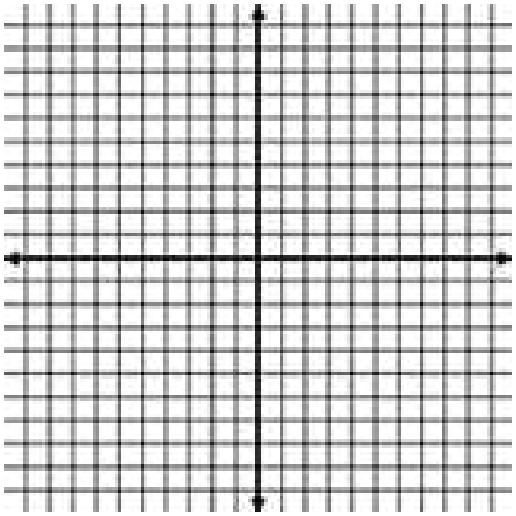
EXAM 2/CHAPTER 3-4.4
60 POINTS POSSIBLE NAME_____

LEAVE ALL ANSWERS EXACT UNLESS THE PROBLEM INDICATES OTHERWISE
SHOW ALL WORK IN ORDER TO EARN FULL CREDIT
LABEL ALL AXES AND WRITE IN THE SCALE

1. (6 POINTS) Graph the equation $x+4y=6$ using the method of your choice. **LABEL AXES AND WRITE IN THE SCALE!**



2. (6 POINTS) Graph $x-3=0$ using any method. **LABEL AXES AND WRITE IN THE SCALE!**



(8 POINTS) Write an equation for the line which is parallel to $y = 5x - 8$ and passes through the point $(1, -2)$.

Point-slope form: _____

Slope-intercept form: _____

3. (4 POINTS) Determine whether the given ordered pair is a solution of the system.

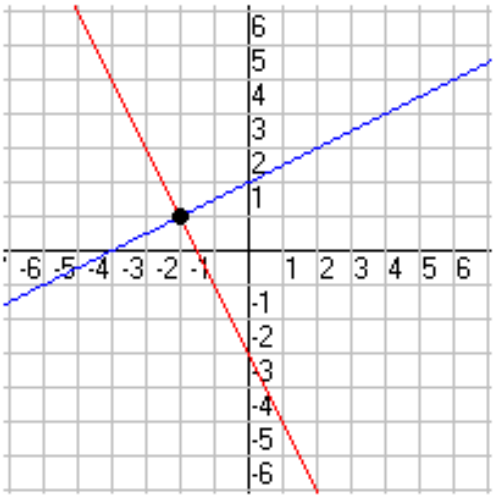
$(-1, 7)$

$6x - 2y = -8$

$3x + y = 10$

Circle one: yes no

4. (6 POINTS) Use the graph below to find the solution of the system of linear equations.



Solution: _____

This system is (circle one): Consistent Inconsistent

The equations are (circle one): Dependent Independent

5. (16 POINTS, 8 POINTS EACH) Solve the following systems of linear equations by the substitution or addition method. Use set notation to express solution sets.

a.

$$x + y = -4$$
$$7x - 2y = 1$$

Solution: _____

This system is (circle one): Consistent Inconsistent

The equations are (circle one): Dependent Independent

b.

$$3x + y = -2$$
$$9x + 3y = -6$$

Solution: _____

This system is (circle one): Consistent Inconsistent

The equations are (circle one): Dependent Independent

6. (14 POINTS, 7 POINTS EACH) Solve the following problems using the problem solving techniques learned in the lecture. **There will be no credit awarded for trial and error!**

   a. The difference of two numbers is three. The first number is twice the second number less six. Find the numbers.

   b. When a plane flies with the wind, it can travel 5600 miles in 7 hours. When the plane flies in the opposite direction, against the wind, it takes 8 hours to fly the same distance. Find the rate of the plane in still air and the rate of the wind.