Linear Systems and Analytic Geometry
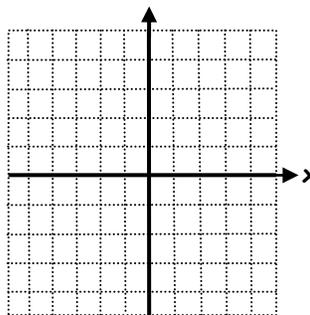
1. Solve the following systems by graphing:

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

$$2x - y = 4$$

2. Determine if (3,-4) is the solution to: $2x - y = 10$
$$x + 3y = 9$$

3. Solve by the most appropriate method.

a) $y = 3x - 4$
   $y = 2x + 7$

b) $x = 2y - 5$
   $3x - y = -10$

c) $2x + 3y = 4$
   $x - 3y = 2$

4. The coin box of a vending machine contains $6.20 in dimes and quarters. There are 32 coins in all.
   How many of each kind are there?

5. It took the high school volleyball team 5 hours to travel to a tournament. They travelled by bus and plane a total of 1320 km. If the bus averaged 40 km/h and the plane averaged 600 km/h, determine the time they spent travelling by plane.

6. Given A(-4,9) and B(2,-6) determine:
   a) The distance from A to B.
   b) The midpoint of the line joining A and B.
   c) The slope of AB.

7. What type of quadrilateral could be formed given the following information:

Quad #	Slopes				Lengths			
	AB	BC	CD	AD	AB	BC	CD	AD
1	5	-1/5	5	-1/5	2	4	2	4
2	2	-1	2	-1	5	5	5	5

8. What type of triangle is formed by the vertices X(5,-1), Y(8,5) and Z(11,2).

9. For the circle with center (0,0) passing through the point (-6,5), determine:
   a) The radius   b) The intercepts   c) The equation
   d) If (4,7) is inside, on or
       outside the circle