Name: _____ Date:

Course: _____ Nyack College

College MATH

QUIZ #5

Directions: Provide complete responses to each question. Make sure to show your work.

1. Find the distance between the pair of points and the coordinates of the midpoint of the line segment formed by the pair of points:

   a. $(3,4)\ and\ (-2,1)$

   b. $(-2,4)\ and\ (3,-2)$

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2. Find the center and the radius of the following equations (HINT: Use the completing the square method):

   a. $x^2 + y^2 + 4x + 6y + 9 = 0$

   b. $x^2 + y^2 + 10x - 14y - 7 = 0$

3. Find the slope of the line through each pair of points by using the slope formula:

   a. $(-2,-3)\ and\ (-1,5)$

   b. $(1,6)\ and\ (1,8)$

4. Determine whether the lines described are parallel, perpendicular, or neither parallel nor perpendicular.

   a. $L_1\ through\ (4,6) and\ (-8,7)\ and\ L_2\ through\ (7,4)\ and\ (-5,5)$

   b. $L_1\ through\ (2,0) and\ (5,4)\ and\ L_2\ through\ (6,1)\ and\ (2,4)$

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5. Write the equation, in slope-intercept form if possible, of the line passing through each pair of points:

   a. $(3, 4) and\ (5, 8)$

   b. $(6, 1) and\ (-2, 5)$

   c. $(2, 5) and\ (1, 5)$

   d. $(7, 6) and\ (7, -8)$

6. Solve each system by the elimination method

a. $2x - 5y = 11$

$3x + y = 8$

b. $3x + 4y = -6$

$5x + 3y = 1$

7. Solve each system by the substitution method

a. $4x + y = 6$

$y = 2x$

b. $5x - 4y = 9$

$x - 2y = -3$