Pre-Calculus Chapter 0.5 Practice Test

1.) (8 pts tot, 4 pts each) Calculate the distance between the given points.

    a) (-4, 5) and (-9, -7)

    b) (0, -7) and (-4, -5)

2.) (8 pts tot, 4 pts each) Find the midpoint of the segment joining the two points.

    a) (-3, -1) and (-7, 2)

    b) (-5, 12) and (7, 16)

3.) (8 pts tot, 4 pts each) Find the x- and y-intercepts and graph the corresponding lines.

   a) $y = -3x + 2$

   b) $y = x^2 + 6x - 27$

4.) (8 pts tot, 4 pts each) Write the equation of the circle in standard form.

   a) Center (6, -7)
       $r = 8$

   b) Center (-4, -1)
       $r = 3\sqrt{5}$

5.) (8 pts tot, 4 pts each) State the center and radius of the circle with the given equation.

    a) $(x + 3)^2 + (y - 7)^2 = 81$

    b) $(x + 1)^2 + (y + 2)^2 = 8$

6.) (8 pts tot, 4 pts each) Find the center and radius of the circle.

    a) $x^2 + y^2 + 8x + 2y - 28 = 0$

    b) $x^2 + y^2 - 2x - 10y + 2 = 0$

7.) (8 pts tot, 4 pts each) Find the slope of the line that passes through the given point.

    a) (11, -3) and (-2, 6)

    b) (-1, -4) and (4, 6)

8.) (8 pts tot, 4 pts each) Write the equation in slope-intercept form. Identify the slope and the y-intercept.

    a) $3x - 5y = 15$

    b) $8 = 4x - 16y$

9.) (8 pts tot, 4 pts each) Write the equation of the line in both point-slope and slope-intercept form.

    a) Slope: m = -6 y-intercept: (0, 9)

    b) Slope: m = 0 y-intercept: (0, -4)

10.) (8 pts tot, 4 pts each) Write the equation of the line that passes through the given point. Express the equation in slope-intercept form.

    a) Slope: m = -⅓
       (-6, 9)

    b) Slope: m = 4
       (-2, 8)

11.) (8 pts tot, 4 pts each) Find the equation of the line that passes through the given point and also satisfies the additional piece of information.

a) (1, 4); perpendicular to 6x + 14y = 7

b) (3, 5); parallel to 3x - 8y = 20

12.) (4 pts each) Write an equation that describes the variation.

a) P varies inversely with r^2

13.) (8 pts tot, 4 pts each) Write an equation that describes the variation.

a) y varies inversely with both x and z; y = 32, x = 4, z = 0.05

b) V varies directly with h; V = 18, h = 8