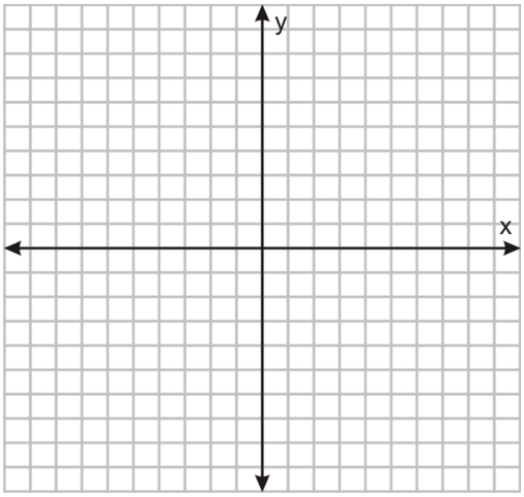
Precalculus
Review 1.1-1.5

Name_____
Period_____Date_____

1. Graph: $(x-1)^2+(y+3)^2=9$



2. Write the equation of the circle with the given information.

   a) center: $(-4,7)$ and radius: 8

   b) endpoints of diameter: $(-2,-5)$ and $(-2,9)$

   c) center $(-1,-4)$ and solution point $(4,8)$

3. Write the equation of the line with the given information.

   a) Through the point $(3,-5)$ with slope $\frac{2}{3}$

   b) Through points $(-3,-7)$ and $(1,6)$

   c) Parallel to the line $-4x+16y=10$ and passes through the point $(-2,9)$

   d) Perpendicular to the line $-4x+16y=10$ and passes through the point $(-2,9)$

   e) Perpendicular to the line $y=\frac{5}{7}x-9$

4. Find the distance between the 2 points $(-8, -1)$ and $(-3, -6)$

5. Find the slope between the 2 points $(2, 4)$ and $(8, -6)$

6. Solve for A. Given: $m = \frac{2}{7}$ between the 2 points $(A, 6)$ and $(2, -4)$

7. Determine whether the function is odd, even or neither. Describe its symmetry.

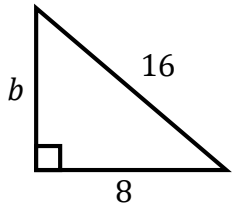
   a) $f(x) = \frac{x^2 - 5}{4x}$

   b) $f(x) = 3x^3 - 9x^2 + 4x + 8$

   c) $g(x) = \frac{1}{x} - 4$

   d) $h(x) = x^4 - 16x^2$

8. Find the length of side b.



9. Determine the quadrant(s) in which (x, y) could be located, given:

a) $x = -5 \; and \; y < 0$

b) $x > 0 \; and \; y > 0$

10. Find the $y - intercept$ for the given function.

$y = \frac{x+6}{|x-1|}$

11. Find the zeros.

$f(x) = 7x^2 - 25x - 12$

12. Find the average rate of change from x_1 to x_2 for the given function $(x) = x^3 - 2x^2 + 1$.

a) $x_1 = -2$ to $x_2 = -3$

b) $x_1 = 3$ to $x_2 = 5$

13. Find the domain of the given functions.

a) $f(x) = \sqrt{x-2} + 8$

b) $g(x) = \frac{x^2+2x+4}{x+7}$

c) $h(x) = \frac{\sqrt{x-5}}{x-9}$

14. Find the maximum and minimum values of the given function.

$f(x) = x^3 - 2x^2 - 2x + 8$

15. Find the x and y intercept(s).

a) $x^4 - 4x^2 - 45$

b) $x^2 + 12x - 64$

16. Given: $f(x) = \begin{cases} -2x + 7, & x < -1 \\ (x-2)^2 - 3, & x \geq -1 \end{cases}$

a) $f(-3) =$

b) $f(-1) =$

c) $f(2) =$

17. Determine the intervals over which the function is increasing, decreasing or constant.