

Name_____

Date_____Period_____

Precalculus Review Worksheet #1

Functions & Graphs

Part A: You may not use a graphing calculator on this part.

1) Sketch the graph for each of the following functions. State the domain and range.

a. $r(\theta) = \csc \theta$

b. $f(x) = e^x + 1$

c. $g(x) = \sqrt{4 - x^2}$

d. $f(t) = |t + 3| + 1$

e. $f(t) = -t^3 - 4$

f. $h(t) = \frac{4t - 1}{2t + 6}$

2) Find the x- and y-intercepts of each function.

a. $y = x^2 + x - 2$

b. $y = x^3 - x^2 - 4x + 4$

c. $y = x^4 + 9x^3 + 18x^2$

d. $y = \frac{x^2 + 3x}{(3x + 1)^2}$

Part B: You may use a graphing calculator on this part.

3) Find the points of intersection of the graphs.

a. $y = x^3 - 2x^2 + x - 1$
 $y = -x^2 + 3x - 1$

b. $y = -|2x - 3| + 6$
 $y = 6 - x$

4) Find the intercepts of each graph.

a. $y = 2x - \sqrt{x^2 + 1}$

b. $y = x^3 - 3x^2 + 4$

5) Find any minima or maxima values for each graph.

a. $f(x) = -x^3 + 4x - 1$

b. $f(x) = x^3 - 2x^2 + x$

6) Evaluate $f(x) = -2x^4 + 6x^2 - 3x + 1$ for each.

- a. $f(2)$
- b. $f(-6)$
- c. $f(14)$
- d. $f(5)$
- e. $f(-1.4)$