**NETC MAT-110 MCHS Campus Test #1 Syllabus 2.1, 2.2 Date: 09/04/2013**

Instructions:

Answer all the following questions. Show all your work. Give the reasons wherever they are necessary. No points will be given without work shown.

1. Determine whether each relation is a function. Give the domain and range for each relation.

{(8, 3), (-3, 1), (-9, 5), (6, 7)}

1. Determine whether each equation defines *y* as a function of *x*.

*x* + *y4* = 256

1. Evaluate the following function at the give values of the independent variable and simplify.

 *f*(*x*) = $\frac{3x^{4 }+7 }{x^{5}}$

1. *f* (6) b) *f* (-1) c) *f* (-2*x*)
2. Use the vertical line test to identify graphs in which *y* is a function of *x*.
3. e)
4. f)

g)

1. Use the graph to determine
2. the function’s domain
3. the function’s range
4. the *x-*intercepts, if any
5. the *y*-intercepts, if any
6. the missing function values, indicated by question marks, below each graph

 *f* (-2) = ? *f* (2) = ?

1. a) Determine whether each function is even, odd, or neither.

*f* (*x*) = *x3*– *x- 3*

*f* (*x*) = *x2*$\sqrt{1- x^{2}}$

1. Sketch a graph of an even function *f,* a graph of an odd function *g*.
2. In the following function, the domain of each piecewise function ($-\infty , \infty ).$

$$f\left(x\right)=\left\{\begin{array}{c}0 if x<-3\\-x if -3\leq 0\\x^{2}-1 if x>0\end{array}\right.$$

.

Find *f (-105.69), f(99.62), f(-3.702).*

$\frac{4x^{3 }+1 }{x^{3}}$