Extra Credit Take Home Quiz
Due March 25th – No late quizzes accepted
Email your solutions to brandy.rapatski@stockton.edu

Name _____

MATH1100

You may work together and/or seek help from anyone! You must show all your work (on a separate sheet of paper) for credit.

1. Let $f(x) = x^3 - 5x^2 + 5x + 3$
   a) Apply the Leading Coefficient Test
   b) List the possible rational zeros of $f(x)$
   c) Factor $f(x)$ completely
   d) Find the zeros of $f(x)$ and their multiplicity
   e) Plot sufficient solution points
   f) Draw a continuous curve through the points to sketch the graph of $f(x)$

2. Put the quadratic in standard form and identify the vertex and x & y-intercepts. Sketch the graph.
   $f(x) = -x^2 - 2x + 3$

3. Let $f(x) = \dfrac{x}{x^2 - 9}$
   a) Identify the x & y-intercepts
   b) Find all vertical, horizontal and slant asymptotes
   c) Check for symmetry
   d) Plot sufficient solution points
   e) Sketch the graph of $f(x)$

4. Let $f(x) = \dfrac{x^2 - 4x + 4}{x - 1}$
   a) Identify the x & y-intercepts
   b) Find all vertical, horizontal and slant asymptotes
   c) Check for symmetry
   d) Plot sufficient solution points
   e) Sketch the graph of $f(x)$