QUIZ 6 - MATH 112 Friday, March 12

YOUR NAME:_____ George Voutsadakis

Read each problem **very carefully** before starting to solve it. Each problem is worth around 5 points. It is necessary to show **all** your work. Correct answers without explanations are worth 0 points. GOOD LUCK!!

1. Consider the function $f(x) = -x^4 - 4x^3$.

   (a) Compute $f'(x)$ and find its critical points.

   (b) Compute $f''(x)$ and find its critical points.

   (c) Create the combined sign table for the first and second derivatives, as shown in class.

   (d) Summarize the intervals of monotonicity (f increasing/decreasing), the relative extrema (relative max/min points), the intervals of concavity and the inflection points.