MATH 211 HOMEWORK 4 NAME _____

Prof. J. Beachy Due Friday, 3/7/03 Circle C1(T10) C2(T11) C3(Th10)

This homework is optional–the grade will replace your grade on Quiz 6.

p215 #28: Let $f(x) = \dfrac{-4}{x^2+1}$.

(a) [3 pts] Find all vertical and horizontal asymptotes.
(b) [4 pts] Find $f'(x)$, the critical points, and the intervals on which $f(x)$ is increasing and decreasing.
(c) [4 pts] Find $f''(x)$, inflection points, and the intervals on which $f(x)$ is concave up and concave down.
(d) [4 pts] Find the relative maximum and relative minimum values of $f(x)$.
(e) [5 pts] Sketch the graph of the function $f(x)$ on the axes given below.