Math 16A (Summer 2010)
Kouba
Quiz 5

PRINT Name : _____

Exam ID # : _____

1.) (20 pts.) For the following function f determine all absolute and relative maximum and minimum values, inflection points, and x- and y-intercepts. State clearly the open intervals for which f is increasing ($\uparrow$), decreasing ($\downarrow$), concave up ($\cup$), and concave down ($\cap$). Neatly sketch the graph of f.

$f(x) = x(x-3)^2$ on the interval $[-1, 5]$

2.) (5 pts. each) Let $f(x) = \dfrac{2x}{1-x}$

    a.) Use limits to determine equation(s) for all horizontal asymptotes.

    b.) Use limits to determine equation(s) for all vertical asymptotes.

3.) (10 pts.) Let $f(x) = \cos x - \sqrt{3}\sin x$. Solve $f''(x) = 0$ for x, $0 \le x \le 2\pi$.

4.) (10 pts.) Let $f(x) = 6x^{1/3} - x$. Set up a sign chart for the first derivative, f'. Indicate the open intervals on which f is ($\uparrow$) and ($\downarrow$) .