Math 16A (Summer 2008)
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 ($\bigcup$), and concave down ($\bigcap$). Neatly sketch the graph of f.

$f(x) = x^3 - 3x^2$ on the interval $[-1, 4]$

2.) (10 pts.) If $f''(x) = x^2(x-2)^3(x-4)^2$, then determine all of the x-values corresponding to inflection points for the graph of f.

3.) (10 pts.) Let $f(x) = x^2 + 4\sin x$. Solve $f''(x) = 0$ for x, $0 \le x \le 2\pi$.

4.) (10 pts.) Let $f(x) = \dfrac{x^2}{x-2}$. Set up a sign chart for the first derivative, f'.