King Fahd University of Petroleum and Minerals
Department of Mathematical Sciences
Math 101.04 Quiz V Summer 2006 (053)

ID #: _____ NAME: _____

Serial # _____ Section #: _____

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1. Find local extrema and points of inflection of $f(x) = xe^{-x}$. Sketch the graph of f.

2. Find local extrema and points of inflection of $f(x) = \dfrac{x}{x^2+2}$. Sketch the graph of f.

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1. Find y' and y'' for $y = e^{-\frac{x^2}{2}}$. Find also local extrema of y and points of inflections. Sketch the graph of y.

2. Let $f(x) = 6x^{1/3} + 3x^4$. Given that $f'(x) = \dfrac{2(2x+1)}{x^{2/3}}$, find the absolute extrema of f in $[-1, 1]$.