Student Name:_____ Student Number: _____ Serial No.:_____

Instructor: M. Z. Abu-Sbeih Math - 132.1 Quiz No. 2 Date: 16-2-2013.

Problem 1: (4 points) Use the definition of the derivative to find $f'(x)$ for the function $f(x)=\frac{1}{x}$.

Problem 2: (3 points) Find the **slope of the tangent** line to the curve $y=\frac{x+\sqrt{x}}{x}$ at $x=1$.

Problem 3: (3 points) Find the $\frac{dy}{dx}$ where $y=\frac{(1-x)+(x^2+3)}{(x^3+x)}+\pi^3$

Problem 4: (4 points) If the **consumption function** is given by $C = 6 + \frac{3}{4}I - \frac{1}{3}\sqrt{I}$, find the marginal **propensity to save** when $I = 25$.

Problem 5: (6 points) If the demand equation is $p = 100 - 0.01q^2$

(a) Find the rate of change of p with respect to q at $q = 10$.

(b) Find the **percentage rate of change** of p with respect to q at $q = 10$.

(c) Find the marginal revenue function.