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

Instructor: M. Z. Abu-Sbeih Math - 132.1 Quiz No. 2 Date: 11-10-2004.

Problem 1: *Find* $f'(x)$.

(a) $f(x) = \left(x + (1-x)^2\right)^{-3}$

(b) $f(x) = \left(\dfrac{2x+5}{x^2+1}\right)^5$

Problem 2: *Find all points on the curve* $y = \dfrac{1}{3}x^3 - x^2$ *where the tangent line is horizontal.*

Problem 3: *The average cost equation of a certain product is* $\bar{c} = 0.01q + 5 + \dfrac{500}{q}$. *Find marginal cost when* $q = 100$.

Problem 4: *The consumption function is* $c = 6 + \dfrac{3I}{4} - \dfrac{\sqrt{I}}{3}$. *Find the marginal propensity to save when* $I = 25$.

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

Instructor: M. Z. Abu-Sbeih Math - 132.2 Quiz No. 2 Date: 11-10-2004.

Problem 1: Find $f'(x)$.

(a) $f(x) = \left(x + (1-x)^{-2}\right)^5$

(b) $f(x) = \left(\dfrac{x^2+5}{x-1}\right)^4$

Problem 2: *Find all points on the curve* $y = \frac{1}{4}x^4 - \frac{1}{3}x^3$ *where the tangent line is horizontal.*

Problem 3: *The average cost equation of a certain product is* $\bar{c} = 0.01q^2 + 5 - \dfrac{500}{q}$. *Find marginal cost when* $q = 100$.

Problem 4: *The consumption function is* $c = 10 + \dfrac{5I}{6} + \dfrac{\sqrt{I}}{3}$. *Find the marginal propensity to save when* $I = 25$.