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

Instructor: M. Z. Abu-Sbeih Math - 132.1 Quiz No. 4 Date: 11-5-2015.

(1) Find the limit if it exists:

a. $\lim_{x \to 0} \dfrac{1-\cos x}{\sin^2 x}$

b. $\lim_{x \to 0} x \cot 2x$

(2) Find the derivative of each function (DO ONLY 2 PROBLEMS)

a. $y = e^{x-\cos x}$

b. $y = \sin(\csc x)$

c. $y = x \tan x - \sec^2 x$

(3) Evaluate the integrals (DO ONLY 2 PROBLEMS)

a. $\int \cos x \; e^{1-\sin x} dx$

b. $\int \dfrac{\sec^2 x \; dx}{1-\tan x}$

c. $\int \dfrac{\sin^2 x}{\sin 2x} dx$