

Quiz 1

MATH 112-017 and 112-019

New Jersey Inst. Tech.

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Name: _____

Date: _____

Section: _____

1. State the definition of the derivative.

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2. Let $g(x)$ represent a continuous and smooth function for all x . Calculate the derivative of $f(x)$. (You need not use the definition.)

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$$f(x) = e^{xg(x)} \quad (1)$$

3. A basic property of definite integrals is their invariance under translation. For some function f , and constants a , b , c , begin with the following integral

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$$\int_{a-c}^{b-c} f(x+c)dx \quad (2)$$

Use u -substitution to show this is equal to

$$\int_a^b f(x)dx \quad (3)$$