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Stuéient ID Number

MATH 1501 Test 2, October 25, 2007, WTT

1. Complete the following to form a statement of the First Fundamental Theorem: Let f and G be continuous on [11,12] with G‘ differentiable on (ct, b).

' 2. Complete the following to form e. statement of the Second Fundamental Theorem: Let f be continuous on b] and let c be any number in [a, b]. Also, let F be the function deﬁned on [a, b].

3. Use differentials to estimate \/64.03.

6. Complete the following to make correct statements. X

u J. \_ O The natural logarithm function lnm is deﬁned by lnx = I 1\*; A it

**. I**

/ \*1 is is ii l

o lnzc is strictly increasing because K”; > 0\_\_\_

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0 The function AT(a:) (which will eventnally be {Jailed the inverse tangent or arctangent function)

0 The domain of AT(:c) is L» D“ , W ) 9 r

0 .The derivative of AT(:I3] is

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8. Find the derivatives of the following functions: a. 5) K I

10. - A radi0~active substance of quantity 36 grams reduces to 12 grams after 2 years. Express its

half-life in years.