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MATH 1501 Test 1, September 20, 2007, WTT

*KEY*

Student Name and ID Number

3. The derivative f’ of a function f is deﬁned by f’ =

*G)*

Use your answer to the preceding problem to determine the derivative f’ of the function f when

5 — 3::

5. State the Mean Value Theorem and draw an appropriate graph to illustrate the concept behind

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. Use derivative formulas to ﬁnd f’ when (do not “simplify” your answers):

a. f(ac) = 751:3 + 12x2 — 5x — 13.

c. The values of x at which f achieves a local max.

>4 = 3

d. The values of as at which f achieves a local min.

X I ‘F

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10. What is the minimum amount of fencing required to deﬁne two adjacent rectangular play

CD "V2 3 1 X

0

b. Find the intervals on which f is concave downwards.

grounds of the same width each having area 7, 500 square feet (see ﬁgure below).

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