KFUPM | Term 083 | Date: 26/7/2009

Dept. of Math. & Stat. | MATH 101 | Duration: 20 minutes

Quiz 2

Name: ID #: Section #: Serial #:

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*Q*1. (6 points) Let $f(x)=\begin{cases}\dfrac{x-1}{\sqrt{x^2-1}} & , x\neq 1\\ 0 & , x=1\end{cases}$

a. Find points of discontinuity (if any!).

b. Find horizontal and vertical asymptotes (if any!).

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*Q*2. (4 points) Show that the equation $x^3-x^2+x=15$ has at least one real solution.

With My Best Wishes

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*Q*1. (6 points) Let $f(x)=\dfrac{x+\ln x}{\sqrt{5-x}}$

a. Find the points of discontinuity (if any!).

b. Find the vertical asymptotes (if any!).

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*Q*2. (6 points) Given that *f* is differentiable at c, and $g(x)=\begin{cases} f(x) & , x \le c \\ f'(c)(x-c)+f(c) & , x > c \end{cases}$.

Use the definition to find $g'(c)$.

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