KFUPM | Term 161 | Date: 2/11/2016

Mathematics & Statistics | MATH 101 | Duration: 20 minutes

Quiz# 3

Name: ID #: Section: 4 Serial #:

1. If α and β are two constants and the given function f is continuous everywhere;

$$f(x)=\begin{cases}\frac{\alpha(1-\cos 4x)}{3x^2} & , \quad x<0\\ 3x+\frac{4}{\beta} & , \quad x\geq 0\end{cases}$$

then find the product $\alpha\beta$.

2. If $(x)=|x+1|+3|x-2|$, then find $f'(x)$ (if possible) and justify your answer.

3. If –4 is the x-intercept of the tangent line T to the curve of $y=\sqrt{x}$, then find the equation of the tangent line T. Justify your answer.