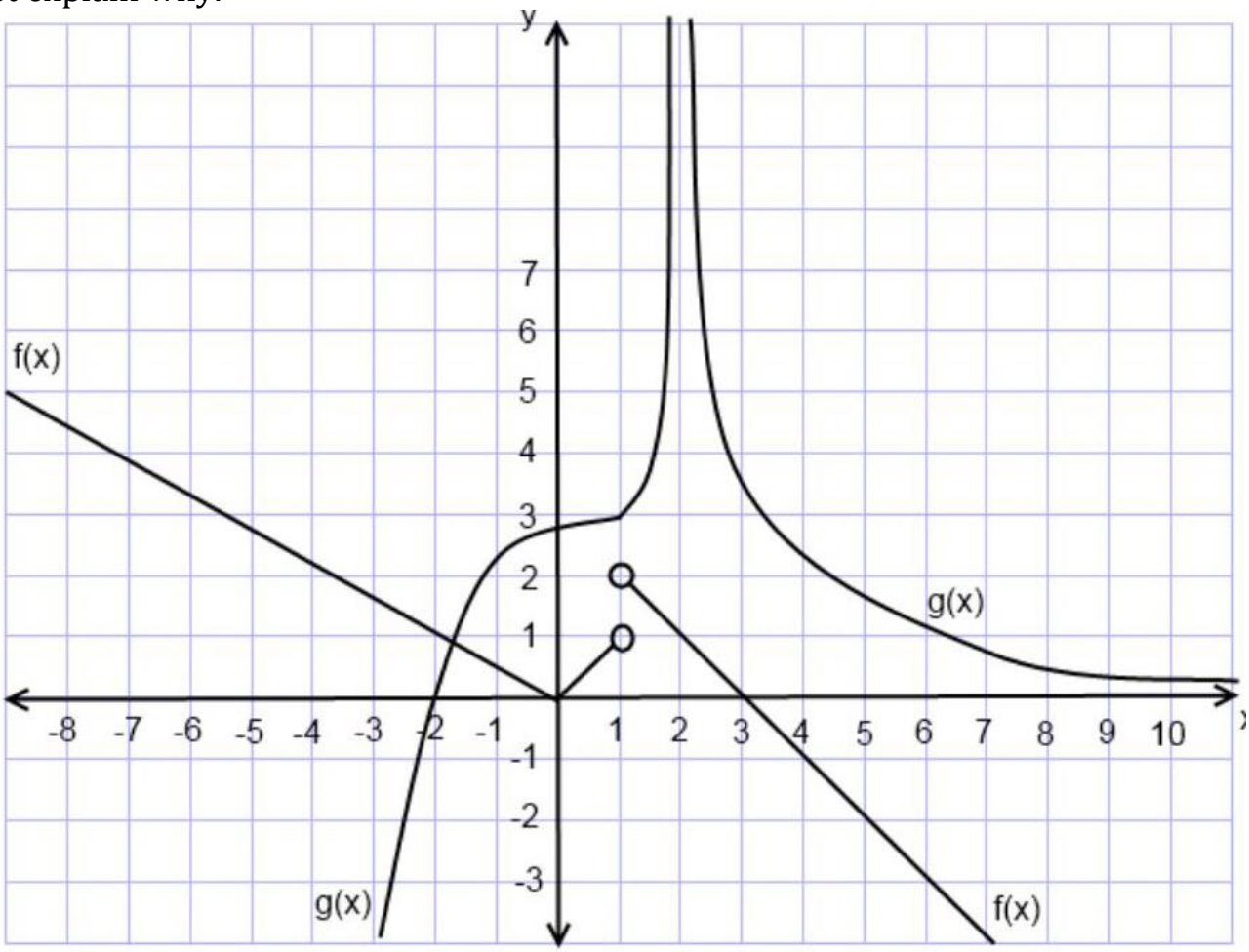
KFUPM | Term 153 | Date: 19/7/2016

Mathematics & Statistics | MATH 101 | Duration: 20 minutes

Quiz# 1

Name: ID #: Section: Serial #:

1. Using the graph below, evaluate the limits that follow (if they exist). If they do not exist explain why.



a. $\lim_{x\to 1^+}[f(x)-g(x)]$

b. $\lim_{x\to 1^-}[f(x)\times g(x)]$

c. $\lim_{x\to 2}\frac{f(x)}{g(x)}$

d. $\lim_{x\to -2}\frac{3f(x)-g(x)}{3+g(x)}$

P.T.O. →

2. If $f(x)=\begin{cases}\frac{1}{|x|}+\frac{1}{x} & , \quad x<0\\ 3 & , \quad x=0\\ \left[\!\left[\frac{6}{2+x}\right]\!\right] & , 0<x<2\\ \frac{\sqrt{x^2-5}-2}{x-3} & , \quad x>2\end{cases}$ then find each of the following:

a. $\lim\limits_{x\to 0^-} f(x)$

b. $\lim\limits_{x\to 1} f(x)$

c. $\lim\limits_{x\to 3} f(x)$

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3. For $(x)=\frac{3+7x-6x^2}{2x-3}$, $a=2$, and $L=7$, find a $\delta>0$ such that for all $x\neq\frac{3}{2}$, we have $0<|x-a|<\delta \implies |f(x)-L|<1$.

With My Best Wishes