

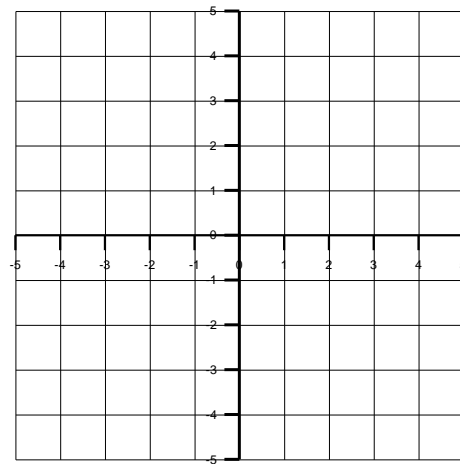
King Fahd University of Petroleum & Minerals
Department of Mathematics and Statistics
(Semester 161) Math 101 Quiz # 1

Name: _____ I.D. # _____ Sr. # _____

1. Evaluate $\lim_{x \rightarrow 0} \frac{\sqrt{2} - \sqrt{2+x}}{x}$

2. Given $f(x) = \begin{cases} 2-x^2 & \text{if } x \leq 2 \\ x-3 & \text{if } x > 2 \end{cases}$,

Find $\lim_{x \rightarrow 2^-} f(x)$, and $\lim_{x \rightarrow 2^+} f(x)$. Does $\lim_{x \rightarrow 2} f(x)$ exist? Sketch the graph of $f(x)$



3. If the symbol $\| \|$ denotes the greatest integer function, evaluate $\lim_{x \rightarrow \frac{\pi}{2}} \|\cos x\|$ if it exists.