

Answers for Quiz #1

1. For every $\varepsilon > 0$, there exists a $\delta > 0$ such that if $0 < |x - c| < \delta$, then $|f(x) - L| < \varepsilon$.
2. a. $\delta = \text{MIN} \{1, \varepsilon/21\}$
b. $\delta = \text{MIN} \{1, \varepsilon/13\}$
3. a. $2/27$
b. -2
c. 65
d. -1
e. 0
4. a. $f(c)$ is defined.
b. $\lim_{x \rightarrow c} f(x)$ exists.
c. $f(c) = \lim_{x \rightarrow c} f(x)$.
5. a. $x = 4$ is a nonremovable discontinuity because $f(4)$ is undefined.
 $f(x)$ is continuous at $x = 3$.
b. $x = 1$ is a removable discontinuity. It can be removed by making $f(1) = 5$.

If you feel that there are errors with this answer page, please email Brian Beck-Smith at bbeck@utdallas.edu.