

$$1. (a) \forall \varepsilon > 0, \exists B > 0, \text{ s.t., if } x > B, |f(x) - L| < \varepsilon$$

of $\lim_{x \rightarrow \infty} f(x) = L$.

$$(b) \forall \varepsilon > 0, \exists B = \frac{1}{\varepsilon} > 0, \text{ s.t. if } x > B, |f(x) - 0| < \varepsilon$$

$$\lim_{x \rightarrow \infty} \frac{1}{x} = 0.$$

$$\cancel{x > B} \quad \varepsilon < \frac{1}{x} - 0 < \varepsilon$$

$$\leftarrow 0 < \frac{1}{x} < \varepsilon \Rightarrow x > \frac{1}{\varepsilon}$$

the statement is true or false. Need not explain.

continuous at $x = c$, then it is differentiable at