Exercise 1 *What is wrong with the following "definition" of a limit?*

> *"The limit of $f(x)$, as x approaches a, is L" means that given any $\delta > 0$ there exists $\varepsilon > 0$ such that if $|f(x) - L| < \varepsilon$, then we have $|x - a| < \delta$.*

Multiple Choice:

(a) *Nothing, this definition is correct.*

(b) *It should be "given any $\varepsilon > 0$," not $\delta > 0$.*

(c) *It should be that if $|x - a| < \delta$, then $|f(x) - L| < \varepsilon$, not the other way around.*

(d) *It should be "given any $\varepsilon > 0$," not $\delta > 0$, and it be that if $|x - a| < \delta$, then we have $|f(x) - L| < \varepsilon$, not the other way around.* ✓