## Sequences

## Question

Given that $\lim _{n \rightarrow \infty}\left|a_{n}\right|=3$, which of the following statements must be false?
A. $\lim _{n \rightarrow \infty} a_{n}=3$
B. $\lim _{n \rightarrow \infty} a_{n}$ diverges due to oscillation.
C. $\lim _{n \rightarrow \infty} a_{n}$ diverges to $\infty$.
D. $\lim _{n \rightarrow \infty} \frac{a_{n}}{n}$ converges.

