

Which one is correct? Why?

If $0 < x < 1$, ($x \in \mathbb{R}$, $n \in \mathbb{N}$)

(A) $\lim_{n \rightarrow \infty} \left(\lim_{x \rightarrow 1^-} x^n \right) = \lim_{n \rightarrow \infty} \left(1^n \right) = 1.$

(B) $\lim_{x \rightarrow 1^-} \left(\lim_{n \rightarrow \infty} x^n \right) = \lim_{x \rightarrow 1^-} \left(0 \right) = 0.$

(C) Both of the above

(D) None of the above