

Advanced Calculus: 15-Minute Quiz 03

Name : _____ Student ID # : _____ Score : _____

1. Find the limit function f of the sequence of functions f_n on \mathbb{R} , where $f_n(x) = \frac{x}{n}$.
2. Find the limit function f of the sequence of functions f_n on $[0, 1]$, where $f_n(x) = x^n$.
3. Find the limit function f of the sequence of functions f_n on \mathbb{R} , where $f_n(x) = \frac{x^2 + nx}{n}$.
4. Find the limit function f of the sequence of functions f_n on $[0, \infty)$, where $f_n(x) = x + \frac{1}{1 + nx}$.
5. Find the limit function f of the sequence of functions f_n on \mathbb{R} , where $f_n(x) = \frac{\sin(nx + n)}{n}$.