

Practice Quiz 3 (L6-L7)

1. Compute the limits. If the limits do not exist, write DNE. If the limit does not exist, but tends to infinity or negative infinity, then write $+\infty$ DNE or $-\infty$ DNE, respectively.

(i) $\lim_{x \rightarrow 2^+} \frac{1}{x-2}$

(ii) $\lim_{x \rightarrow -4} \frac{3}{(x^2 - 16)^2}$

(iii) $\lim_{x \rightarrow -\infty} \frac{x^3 + x^2 - x - 1}{x^2 - x + 4}$

(iv) $\lim_{x \rightarrow \infty} e^{-x}$

2. Find all the x -values where the following function is NOT continuous.

$$f(x) = \begin{cases} \frac{x^2+1}{x^2-1} & \text{if } x < 0 \\ x-1 & \text{if } x \geq 0 \end{cases}$$