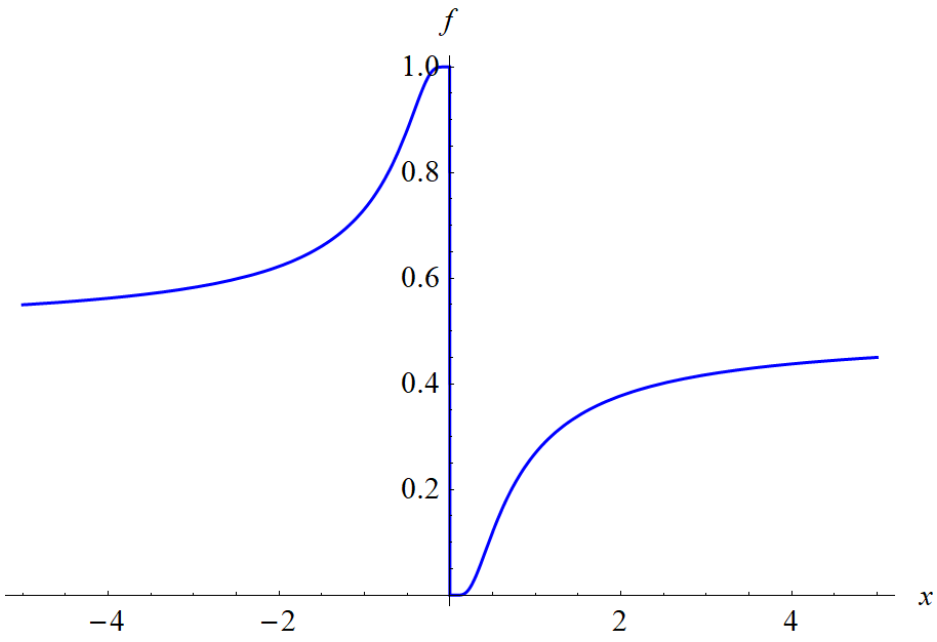
Exercise 13

Use the graph of the function f to state the value of each limit, if it exists. If it does not exist, explain why.

(a) $\lim_{x \to 0^-} f(x)$ (b) $\lim_{x \to 0^+} f(x)$ (c) $\lim_{x \to 0} f(x)$

$$f(x) = \frac{1}{1 + e^{1/x}}$$

Solution



$\lim_{x \to 0^-} f(x) = 1.0$

$\lim_{x \to 0^+} f(x) = 0.0$

$\lim_{x \to 0} f(x)$ does not exist because $\lim_{x \to 0^-} f(x) \neq \lim_{x \to 0^+} f(x)$.