

- Standard 1.1:
 - Suppose $\lim_{x \rightarrow 2} f(x) = 2$. What can you say about the value of $f(2)$?
 - Sketch the graph of a function with the following features:
 (a) $\lim_{x \rightarrow 1} f(x)$ exists, but $f(1)$ does not. (b) $f(2)$ is defined, but $\lim_{x \rightarrow 2} f(x)$ does not exist.
- Standard 1.2: Let $f(x) = x^2 - 2x + 4$. Using only the basic limit properties from Theorem 1.3.1 in the textbook, show that $\lim_{x \rightarrow a} f(x) = f(a)$ for any real number a .
- Standard 1.3: Evaluate the following limits:

$$\lim_{x \rightarrow 1} \frac{x - \sqrt{x}}{x^3 - 1} \quad \text{and} \quad \lim_{x \rightarrow -1} \left(\frac{2}{x^2 - 1} + \frac{1}{x + 1} \right)$$

- Standard 1.4: Evaluate $\lim_{x \rightarrow 0} \frac{\tan^2(2x)}{x^2}$ and $\lim_{x \rightarrow 0} \frac{1 - \cos(x)}{x^2}$
- Standard 1.5: Let $f(x) = \begin{cases} \ln(x - 1) & \text{if } x \geq 2 \\ 1 - x^2 & \text{if } x < 2 \end{cases}$.
 Evaluate $\lim_{x \rightarrow 2^-} f(x)$, $\lim_{x \rightarrow 2^+} f(x)$, $\lim_{x \rightarrow 2} f(x)$, and $f(2)$.