

1. Evaluate the limit or explain why it does not exist.

$$\lim_{x \rightarrow 1} \frac{x^2 + x - 2}{3x - 3}$$

2. Sketch the graph of a function $f(x)$ on the domain $(-3, 3)$ such that f satisfies:

$$\lim_{x \rightarrow -2} f(x) = 1 \quad f(x) \text{ is not continuous at } -2 \quad \lim_{x \rightarrow 1^-} f(x) = \infty \quad \lim_{x \rightarrow 1^+} f(x) = 0$$