

## Quiz 02

Math 140-002: Calculus I (Spring 2026)

Week 2 (Jan 19–Jan 23, 2026)

**Relevant topics:** Limits (one-sided/two-sided), continuity, vertical asymptotes, epsilon–delta idea

**Time:** 10–20 minutes.

**Instructions:** No notes. Show essential steps. Focus on definitions and computational fluency.

1. Evaluate  $\lim_{x \rightarrow 1} \frac{x^2-1}{x-1}$ .
2. Find  $\lim_{x \rightarrow 0^+} \ln x$ .
3. State the epsilon–delta definition of  $\lim_{x \rightarrow a} f(x) = L$ .
4. Identify the hole and vertical asymptote of  $f(x) = \frac{x-3}{x^2-5x+6}$ .