

Name:
Department:

Grade: /10

Math 101, Calculus I, Fall 2023, Sec. 1, H.T.K.
Quiz 1, Tue., Oct. 3
Do NOT use l'Hôpital rule.

1. Evaluate $\lim_{x \rightarrow 1} \frac{\sqrt{3+x} - 2}{\sqrt[3]{7+x} - 2}$. Evaluate $\lim_{x \rightarrow 64} \frac{x^{1/3} - 4}{x^{1/2} - 8}$.

2. Evaluate $\lim_{x \rightarrow -\infty} (\sqrt{x^2 + 3x} - \sqrt{x^2 - 5x})$. Evaluate $\lim_{x \rightarrow 0^-} \left(\sqrt{\frac{1}{x^2} + \frac{3}{x}} - \sqrt{\frac{1}{x^2} - \frac{5}{x}} \right)$.