

Math 131 - Quiz 2

January 28, 2026

Name _____

Score _____

Show all work to receive full credit. Supply explanations when necessary.

1. (4 points) Use the limit laws to determine each limit analytically. Show, in detail, how you used the limit laws.

(a) $\lim_{x \rightarrow 3} (5x + 7)$

(b) $\lim_{x \rightarrow -2} \frac{\sqrt{7-x}}{x}$

2. (4 points) Use any technique to find or estimate the limit.

(a) $\lim_{x \rightarrow 5} x^2 \sin(\pi x)$

(b) $\lim_{x \rightarrow 1} (4x^5 - 9x^2 - 8x + 12)$

(c) $\lim_{x \rightarrow 3} \frac{x^2 - x - 6}{x - 3}$

3. (2 points) Explain why direct substitution CANNOT be used to evaluate each limit.

(a) $\lim_{x \rightarrow 1} \frac{|x^2 - 1|}{x - 1}$

(b) $\lim_{x \rightarrow 8} \sqrt{8 - x}$