

Math 131 - Quiz 2 (IC)

August 31, 2022

Name _____

Score _____

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

1. (3 points) Determine each limit analytically.

(a) $\lim_{x \rightarrow 2} \left(\frac{x^3 + 3x^2 - 10x}{x^2 + x - 6} \right)$

(b) $\lim_{w \rightarrow 0} \frac{\tan w}{5w}$

2. (2 points) Explain why the substitution technique cannot be used to determine the limit. Then evaluate the limit analytically.

$$\lim_{x \rightarrow 1} \frac{(x-3)^2 - 4}{x-1}$$

Math 131 - Quiz 2 (TH)

August 31, 2022

Name _____

Score _____

Show all work to receive full credit. Supply explanations when necessary. This quiz is due September 7.

1. (3 points) Evaluate each limit analytically.

(a) $\lim_{x \rightarrow -3^+} \frac{2 - \sqrt{x^2 - 5}}{x + 3}$

(b) $\lim_{x \rightarrow 0^-} \frac{x^5 + 7x}{|x|}$

2. (2 points) Evaluate the limit analytically. Use $+\infty$, $-\infty$, or DNE if appropriate.

$$\lim_{x \rightarrow 2} \frac{3x^2 - 5x - 2}{(x - 2)^2}$$