

Math 131 - Quiz 2

January 27, 2022

Name _____

Score _____

This quiz is available in Canvas. It is due February 3.

1. (1 point) Determine $\lim_{x \rightarrow 2} f(x)$ if $\lim_{x \rightarrow 2} \left(\frac{x^2 + 3x - f(x)}{x + 3} \right) = 4$.

- (a) 4
- (b) 10
- (c) -10
- (d) None of the above

2. (1 point) Evaluate the limit: $\lim_{r \rightarrow \pi} \frac{\sin r}{r}$

- (a) 0
- (b) 1
- (c) π
- (d) None of the above

3. (1 point) Evaluate the limit: $\lim_{z \rightarrow -5} (2z^2 - 8z + 7)$

- (a) 147
- (b) 97
- (c) -3
- (d) None of the above

4. (1 point) Explain why this limit fails to exist: $\lim_{x \rightarrow 0} \sqrt{x}$

- (a) The limit from the left does not equal the limit from the right.
- (b) The function values grow without bound as the limit point is approached.
- (c) The function values oscillate as the limit point is approached.
- (d) The function is not defined on an open interval containing the limit point.

5. (2 points) Evaluate the limit: $\lim_{x \rightarrow 1} \frac{x^2 - x}{x - \sqrt{x}}$

- (a) 0
- (b) 0/0
- (c) 2
- (d) The limit does not exist.

6. (2 points) Evaluate the limit: $\lim_{y \rightarrow -3} \frac{y(y - 2) - 15}{y + 3}$

- (a) 0/0
- (b) -8
- (c) 5
- (d) 0

7. (2 points) Evaluate the limit: $\lim_{x \rightarrow 9} \frac{x^2 - 81}{x + 9}$

- (a) 0
- (b) 0/0
- (c) 18
- (d) The limit does not exist.