Math 131 - Quiz 2

Name _____

January 26, 2022

Score _____

This quiz is available in Canvas. It is due January 31.

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

   (a) 4

   (b) 10

   (c) -10

   (d) None of the above

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

   (a) 0

   (b) 1

   (c) π

   (d) None of the above

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

   (a) 147

   (b) 97

   (c) -3

   (d) None of the above

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

   (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: $\lim_{x \to 1} \dfrac{x^2 - x}{x - \sqrt{x}}$

(a) 0

(b) 0/0

(c) 2

(d) The limit does not exist.

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

(a) 0/0

(b) -8

(c) 5

(d) 0

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

(a) 0

(b) 0/0

(c) 18

(d) The limit does not exist.