

# Quiz Grade: 75.0% (A)

## Quiz Submission

Calculus and Mathematics

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**Total Questions:** 10

### Course Information

**Course Title:** Calculus and Mathematics  
**Course Code:** SCCMA 216  
**Credit Hours:** 3

## Quiz Questions, Student Answers, and Correct Answers

### Question 1 of 10

*Multiple Choice Question*

What is the derivative of  $x^2$ ?

Available Options:

(A)  $2x$  ← STUDENT SELECTED ← CORRECT ANSWER

(B)  $x^2$

(C)  $x$

(D)  $2$

Student's Answer: Option A:  $2x$

Correct Answer: Option A:  $2x$

### Question 2 of 10

*Multiple Choice Question*

What is the limit as  $x$  approaches infinity for the function  $f(x) = 1/x$ ?

Available Options:

(A)  $0$  ← STUDENT SELECTED ← CORRECT ANSWER

(B)  $1$

(C) infinity

(D) undefined

Student's Answer: Option A:  $0$

Correct Answer: Option A:  $0$

Question 3 of 10

Text Answer Question

What is the definition of a derivative?

Student's Answer:

How fast function is changing at a certain point. Also the slope of the curve a a specific point. ( rate of change)

Correct Answer:

The rate of change of a function at a specific point, given by the limit of the slope of the secant line as the two points get closer together.

Question 4 of 10

Multiple Choice Question

What is the area under the curve of  $f(x) = x^2$  from  $x = 0$  to  $x = 1$ ?

Available Options:

(A) 0

(B) 1

(C)  $1/2$  ← CORRECT ANSWER

(D)  $1/3$  ← STUDENT SELECTED

Student's Answer: Option D:  $1/3$

Correct Answer: Option C:  $1/2$

Question 5 of 10

Multiple Choice Question

What is the derivative of  $\sin(x)$ ?

Available Options:

(A)  $\cos(x)$  ← STUDENT SELECTED ← CORRECT ANSWER

(B)  $\sin(x)$

(C)  $\tan(x)$

(D)  $\csc(x)$

Student's Answer: Option A:  $\cos(x)$

Correct Answer: Option A:  $\cos(x)$

Question 6 of 10

Text Answer Question

What is the definition of an integral?

Student's Answer:

To find the area under a curve between two points. Adding small quantities to find a total area.

Correct Answer:

The calculation of the area under a curve using limits and summing infinitely small rectangles.

Question 7 of 10

Multiple Choice Question

Which of the following is NOT an application of calculus?

Available Options:

- (A) Finding the slope of a curve
- (B) Determining the volume of a sphere
- (C) Solving optimization problems

(D) Solving linear equations ← STUDENT SELECTED ← CORRECT ANSWER

Student's Answer: Option D: Solving linear equations

Correct Answer: Option D: Solving linear equations

Question 8 of 10

Multiple Choice Question

What is the limit as  $x$  approaches 0 for the function  $f(x) = \sin(x)/x$ ?

Available Options:

(A) 0

(B) 1 ← STUDENT SELECTED ← CORRECT ANSWER

(C) infinity

(D) undefined

Student's Answer: Option B: 1

Correct Answer: Option B: 1

Question 9 of 10

Multiple Choice Question

What is the derivative of  $\ln(x)$ ?

Available Options:

(A)  $1/x$  ← STUDENT SELECTED ← CORRECT ANSWER

(B)  $x$

(C)  $e^x$

(D) 1

Student's Answer: Option A:  $1/x$

Correct Answer: Option A:  $1/x$

Question 10 of 10

Text Answer Question

What is the definition of a critical point?

Student's Answer:

point is zero on a function. in other words where the derivative does not exist. Where the function change or reach maximum or minimum value

Correct Answer:

A point on a function where the derivative is equal to zero or does not exist, and is used to determine local extrema.

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