13 Lecture - MTH101

Important Mcqs

What is the limit of the sine function as x approaches infinity?

a) 0

b) 1

c) does not exist

d) -1

Answer: c) does not exist

What is the limit of the cosine function as x approaches ?/2?

a) 0

b) 1

c) does not exist

d) -1

Answer: c) does not exist

What is the derivative of the function f(x) = cos(x) - 2sin(x)?

a) -cos(x) - 2cos(x)

b) -sin(x) - 2cos(x)

c) sin(x) - 2cos(x)

d) -sin(x) + 2cos(x)

Answer: b) -sin(x) - 2cos(x)

Which of the following trigonometric functions has a vertical asymptote at x = ?/2?

a) sine

b) cosine

c) tangent

d) none of the above

Answer: c) tangent

What is the limit of the tangent function as x approaches ?/2 from the left?

a) -?

b) ?

c) does not exist

d) 0

Answer: a) -?

Which of the following trigonometric functions is continuous on the entire real line?

a) sine

b) cosine

c) tangent

d) none of the above

Answer: d) none of the above

What is the derivative of the function f(x) = sin(x)cos(x)?

a) cos^2(x)

b) -cos^2(x)

c) 2sin(x)cos(x)

d) -2sin(x)cos(x)

Answer: c) 2sin(x)cos(x)

Which of the following functions is not continuous at x = 0?

a) sin(x)/x

b) cos(x)/x

c) tan(x)/x

d) all of the above are continuous at x = 0

Answer: c) tan(x)/x

What is the limit of the function f(x) = sin(1/x) as x approaches 0?

a) 0

b) does not exist

c) 1

d) -1

Answer: b) does not exist

What is the maximum value of the function f(x) = 2sin(x) + 3cos(x) on the interval [0, 2?]?

a) 5

b) -5

c) 2

d) 3

Answer: a) 5