Question # 10 of 10 (Start time: 11:47:39 AM, 21 November 2023) Total Marks: 1

Consider the function $f(x) = 2x - 1$. If $\lim_{x \to 3} f(x) = 5$, which statement is true?

Select the correct option

Reload Math Equations

- For every $\delta > 0$, there exists $\varepsilon > 0$ such that $0 < |x - 2| < \delta$ implies $|f(x) - 5| < \varepsilon$.
- For every $\varepsilon > 0$, there exists $\delta > 0$ such that $0 < |x - 3| < \delta$ implies $|f(x) - 5| < \varepsilon$.
- For every $\delta > 0$, there exists $\varepsilon > 0$ such that $|f(x) - 5| < \varepsilon$ implies $0 < |x - 3| < \delta$.
- For every $\delta > 0$, there exists $\varepsilon > 0$ such that $|f(x) - 5| > \varepsilon$ implies $0 < |x - 3| < \delta$.

Click to Save Answer & Move to Next Question

Question # 9 of 10 (Start time: 11:46:43 AM, 21 November 2023) **Total Marks:** 1

The area of the sector with radius r and central angle θ radians is

Select the correct option

Reload Math Equations

- $\pi r^2\theta$
- $\frac{1}{2}r^2$
- $r\theta$
- $\frac{1}{2}r^2\theta$

Click to Save Answer & Move to Next Question

Question # 8 of 10 (Start time: 11:45:57 AM, 21 November 2023) **Total Marks:** 1

If f is a function that is continuous at each point of its domain and if f has an inverse, then the inverse of f is also continuous at each point of its domain

Select the correct option

- (●) True
- ( ) False

Question # 7 of 10 (Start time: 11:45:17 AM, 21 November 2023) **Total Marks:** 1

The derivative of f(x) at a point is the _____ to the graph of f(x) at that point.

Select the correct option

- ○ Slope of Secant line
- ◉ Slope of tangent line ✓

Question # 6 of 10 (Start time: 11:44:21 AM, 21 November 2023) Total Marks: 1

Which expression is right?

Select the correct option

Reload Math Equations

- $\lim_{x \to \infty} \sin x/x = 0$
- $\lim_{x \to \infty} \sin x/x = 1$
- $\lim_{x \to 0} \sin x/x = 1$
- $\lim_{x \to 0} \sin x/x = \infty$

Click to Save Answer & Move to Next Question

Question # 5 of 10 (Start time: 11:43:33 AM, 21 November 2023) **Total Marks:** 1

If the function f and g are continuous at c then f/g is continuous at c if g(x) is not equal to zero and is discontinuous at c if

Select the correct option

- f(x)=0
- g(x)=0 ✓
- g(x)is not equal to zero
- f(x) is not equal to zero

Question # 4 of 10 (Start time: 11:42:44 AM, 21 November 2023) **Total Marks:** 1

The slope of the tangent line to y = x^2 +5 at
x = 2 is_____.
NOTE:- where x^n denotes the nth power of x .

Select the correct option

- (●) 4
- ( ) -4
- ( ) None of these.
- ( ) 1/4

Question # 2 of 10 (Start time: 11:40:51 AM, 21 November 2023) **Total Marks: 1**

If y = x^2, then which of the following is true about it over the interval [3, 4]
NOTE:- where x^n denotes the nth power of x.

Select the correct option

- ○ Its average rate of change is 8.
- ● Its average rate of change is 7. ✓
- ○ None of these.
- ○ Its average rate of change is 9.

MTH101 - Calculus And Analytical Geometry (Quiz No.2)

Question # 10 of 10 (Start time: 11:12:21 AM, 06 December 2023)

$$\log_b \frac{M}{N} = _____.$$

Select the correct option

- $\log_b M + \log_b N$
- $\log_b M - \log_b N$ ✓
- $-\log_b N$
- $M \log_b N$

Question # 9 of 10 (Start time: 11:11:04 AM, 06 December 2023)

$If\ y(x) = \tan x,\ then\ y''(x)\ is$

Select the correct option

○	$-2sec^2(x)tan(x)$
●	$2sec^2(x)tan(x)$
○	$-6sec^2(x)tan(x)$
○	$\sec x \tan x$

$$Let\ f(x) = 2\ and\ g(x) = x^2 + 1\ then\ (f - g)(x) = ?$$

Select the correct option

Reload Math Equations

●	Free More Quiz and Soution Visit www.vuanswer.com $1 - x^2$
○	$1 + x^2$

Question # 8 of 10 (Start time: 11:10:05 AM, 06 December 2023)

The function $f(x) = 2x^2 + 1$ is concave up on the interval

Select the correct option

- $(0, \infty)$
- $(-\infty, \infty)$
- Nowhere
- $(-\infty, 0)$

uestion # 1 of 10 (Start time: 12:12:34 PM, 06 December 2023)

If $y = x^n$, then $\frac{dy}{dx}$ gives _____.

elect the correct option

- nx^{n+1}
- nx^n
- nx^{n-2}
- $nx^{(n-1)}$ ✓

If f (x) = x^3 + 1, then which of the following is NOT true about it.
NOTE:- where x^n denotes the nth power of x .

NONE

Select the correct option

- The slope of tangent line at x = 2 is 12.
- The slope of tangent line at x = -2 is 12.
- The slope of tangent line at x = 1 is 3.

If the function is differentiable at a point then it is also _____ at that point.

Select the correct option

- Continuous

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- Not defined

Which of the following describes the equation:
y = 2?

Select the correct option

- A point (0, 2)
- A point (2, 0)

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Which of the following is equation of a circle centered at origin and radius 1?

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Select the correct option

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- $(x^2) + (y^2) = 1$
- $(x^2) - (y^2) = 0$

MTH101 - Calculus And Analytical Geometry (Quiz No.2)

Question # 6 of 10 (Start time: 12:17:45 PM, 06 December 2023)

When knowing 'x' does not lead directly to 'y', then the function is said to be _____.

Select the correct option

- On-to-one
- Explicit
- Onto
- Implicit

MTH101 - Calculus And Analytical Geometry (Quiz No.2)

Question # 4 of 10 (Start time: 12:15:35 PM, 06 December 2023)

$\frac{d}{dx}(b^x) =$ _____.

Select the correct option

- $b.\ln x$
- $b^x.\ln b$
- $x.\ln b$
- b^x

Question # 2 of 10 (Start time: 12:13:32 PM, 06 December 2023) Total Marks: 1

d(5x+4)/dx=__

Select the correct option

- ○ 5
- ○ 4
- ○ 9
- ○ 2

Click to Save Answer & Move to Next Question

Question # 3 of 10 (Start time: 12:14:18 PM, 06 December 2023)

The derivative of

$$y = 4x^8$$

can be found in a single step by using ..... rule.

$32x^7$

Select the correct option

○	Power ✓
○	Product
○	Sum
○	Difference

Question # 6 of 10 (Start time: 07:50:50 AM, 20 November 2023)

Tan(x) is continuous everywhere except at _____

Select the correct option

○	sin(x)=1
○	sin(x)=0
○	Cos(x)=1
●	cos(x)=0

Question # 5 of 10 (Start time: 07:49:51 AM, 20 November 2023)

A function f is called continuous from the right at point c if f(c) is defined and right hand limit f(x) exist and

Select the correct option

- ○ left hand limt f(x) = right hand limit f(x)= f(c)
- ○ None of these
- ◉ left hand limit f(x)= f(c)
- ○ right hand limit f(x)= f(c)

Question # 4 of 10 (Start time: 07:48:47 AM, 20 November 2023)

If $f(x) = 8x^2 - 2x + 5$, then $f'(0)$ will be____

Select the correct option

- (●) -2
- ( ) -1
- ( ) 4
- ( ) -3

Question # 7 of 10 (Start time: 09:50:49 AM, 17 July 2023)

Which of the following is the value of definite integral of 5+5x , where the lower limit is -1 and upper limit is 1 ?

Select the correct option

- 12
- 14
- 16
- 10

Question # 6 of 10 (Start time: 09:49:14 AM, 17 July 2023)

In integration of $f(x) = x(x^2 - 3)^4$ from x=0 to x=2 by substitution method, we take $u = x^2 - 3$ then du= .....

Select the correct option

○	$2x$
○	dx
○	$2xdx$
○	x

Question # 3 of 10 (Start time: 09:44:21 AM, 17 July 2023)

The volume of cylindrical shell for R = 5, r = 3 and h = 2 is ----------

Select the correct option

- 30*pi
- 25*pi
- 36*pi
- 32*pi

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Question # 5 of 10 (Start time: 09:47:42 AM, 17 July 2023)

If the definite integral of f(x)=3 over [\x] is greater than '12' then ------

Select the correct option

- x>3
- x>12
- x>1
- x>5

If the value of definite integral of a function f(x) taken from 1 to 3 is 9 then its value taken from 3 to 1 is

Select the correct option

- -9
- None of these
- 9
- 0

If a car travels 150 miles over a straight road in 3 hours, then its average velocity during the trip is ____

Select the correct option

- ○ 40m/h
- ○ 60m/h
- ● 50m/h
- ○ 30m/h

MTH101 - Calculus And Analytical Geometry (Quiz No.2) Quiz Start Time: 12:12 PM,

Question # 10 of 10 (Start time: 12:22:48 PM, 06 December 2023)

$$If\ f(x) = x^5\ and\ g(x) = x^2,\ then\ the\ derivative\ of\ f(x) \times g(x)\ is$$

Select the correct option

Reload

○	$7x^3$
○	$6x^3$
○	None of these
○	$3x^2$

Click to Save Answer & Move t

Question # 8 of 10 (Start time: 07:52:48 AM, 20 November 2023)

Is the function $f(x) = 1/(x+1)$ continuous at $x = 1$? If not, why?

Select the correct option

- f is continuous at x = 1
- f is not continuous at x = 1.

uestion # 9 of 10 (Start time: 12:21:55 PM, 06 December 2023)

When 'x' is known and we can find 'y' directly, then the function is said to be _____.

elect the correct option

- ○ Onto
- ○ Implicit
- ○ Explicit
- ○ One-to-one

MTH101 - Calculus And Analytical Geometry (Quiz No.2) Quiz Start Time: 12:12 PM, 06 December

Question # 8 of 10 (Start time: 12:20:17 PM, 06 December 2023) Total Mc

$h(t) = \cos(t+1)$ *is a composition of two functions, one is* cos *and second is* .....

Select the correct option

Reload Math Equatio

- $t+1$
- t
- 1
- 0

TH101 - Calculus And Analytical Geometry (Quiz No.2) Quiz St

estion # 7 of 10 (Start time: 12:18:48 PM, 06 December 2023)

If $f(x) = (\sec x + x^4)^5$, then the derivative of $f(x)$ is _____

lect the correct option

- $5(\sec x + x^4)^4(\sec(x)\tan(x) - 4x^3)$.
- None of these.
- $5(\sec x + x^4)^4$.
- $5(\sec x + x^4)^4(\sec(x)\tan(x) + 4x^3)$. ✓

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$$If\ g(x) = 8\tan x - 5\cot x,\ then\ g'(x)\ is$$

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Select the correct option

Reload Math Equations

●	$8sec^2x + 5cosec^2x$
○	$8sec^2x - cosec^2x$
○	$-8sec^2x + 5cosec^2x$

Question # 12 of 30 (Start time: 12:25:04 PM, 03 July 2020) Total Marks: 1

If f(x)=(107)^2 then f '(2)=
NOTE: x^n means 'x' to the power 'n'

Select the correct option

- 214
- 4
- 0

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Question # 11 of 30 (Start time: 12:24:45 PM, 03 July 2020) Total Marks: 1

$$Graph\ of\ the\ equation\ x^2 + y^2 = 9\ represents\ a. \ldots\ldots\ldots\ldots\ldots$$

Select the correct option

Reload Math Equations

- Circle
- Parabola
- Ellipse

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Question # 6 of 30 (Start time: 12:19:59 PM, 03 July 2020) Total Marks: 1

A function f is continuous at a point x = a if and only if f(a) is defined, lim f(x) as x approached to "a" exists and .....

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Select the correct option

- lim f(x) is not equal to f (a)
- lim f(x)= f (a)
- lim f(x)> f (a)

$$Let\ f(x) = \sqrt{x+1}\ then\ f(-2) = \sqrt{-1}$$

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Select the correct option

Reload Math Equations

○	-1
○	0
○	1

At each point of domain, the function _____

Select the correct option

- Is defined
- Is infinite

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Question # 9 of 10 (Start time: 09:54:14 AM, 17 July 2023)

If f(x) =3x^2 then F(x) (antiderivative of f) will be

Select the correct option

- 6x
- 6x+c
- x^3+2
- x^3+c

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Which of the following is the definite integral of f(x) =x^2 from x=1 to x=2

Select the correct option

- (●) 7/3
- ( ) None of these.
- ( ) 8/3
- ( ) 7

Question # 2 of 10 (Start time: 09:42:53 AM, 17 July 2023)

If we change the letter for the variable of integration but don't change the limits, then the values of the definite integral are unchanged.

Select the correct option

- True
- False

MTH101 - Calculus And Analytical Geometry (Quiz No 2)

Question # 1 of 10 (Start time: 09:41:32 AM, 17 July 2023)

We can approximate integrals by Riemann sums.

Select the correct option

- (•) True
- ( ) False

Antiderivative of cosx is ____

$\int \cos x = ?$

Select the correct option

- xsinx
- cosx+sinx
- sinx+c ✓
- None of these.

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Question # 2 of 10 (Start time: 07:46:14 AM, 20 November 2023)

$\lim_{x \to -3} \lim_{x \to -3} f(x) = \frac{x^2-9}{x+3}$ is.....

$\frac{(x+3)(x-3)}{x+3} = -3-3 = -6$

Select the correct option

- 0
- ∞
- 6
- -6 ✓

nber 2023)

$\lim_{x \to 0} k$ is :

Reload Mc

0

x

1

k

Question # 1 of 10 (Start time: 07:44:38 AM, 20 November 2023)

Slope of secant line joining points (2,3) and (3,2) is_____.

Select the correct option

- (●) -1
- ( ) 1
- ( ) None of these
- ( ) 2

Question # 10 of 10 (Start time: 07:55:00 AM, 20 November 2023)

The inequality $L - \epsilon < f(x) < L + \epsilon$ holds in any subset of this interval namely _____ .

Select the correct option

○	$(c - \delta, c) \cup (c, c + \delta)$
○	$(f(x) - \delta, a) \cup (f(x), a + \delta)$
○	$(a - \delta, a) \cup (a, a + \delta)$
●	$(L - \delta, L) \cup (L, L + \delta)$

Question # 14 of 30 (Start time: 12:27:25 PM, 03 July 2020) Total Marks: 1

Graph of f(x+c) will be the same as the graph of f(x) by shifting f(x) on ..... by c units

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Select the correct option

- Right side
- left side

Question # 15 of 30 (Start time: 12:28:02 PM, 03 July 2020) **Total Marks: 1**

The inequality,
$\{(5x + 1) / x\} < 1$
can be simplified to which of the following?

Select the correct option

- (●) $(4x + 1) < 0$
- ( ) $(4x + 1) > 0$
- ( ) $(4x + 1) / x < 0$

Question # 16 of 30 (Start time: 12:29:19 PM, 03 July 2020) Total Marks: 1

If slope of a line is undefined then that line is _____

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Select the correct option

- parallel to x-axis
- parallel to y-axis

Question # 9 of 10 (Start time: 07:54:03 AM, 20 November 2023)

If $f(x) = \sin(x) + \cos(x)$, then $lim_{x \to 0} f(x) = ?$

Select the correct option

- 2
- Does not exist.
- 1
- 0

Question # 18 of 30 (Start time: 12:32:03 PM, 03 July 2020) Total Marks: 1

What is the derivative of 3sec(x)

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Select the correct option

Reload Math Equations

- $3Sec(x)\tan(x)$
- $sec^2(x)$
- $3\ln(\sec(x)+\tan(x))$

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Derivative of a constant function is _____.

Select the correct option

- None of these
- 1
- 0
- Does not exist

When 'x' is known and we can find 'y' directly, then the function is said to be _____.

Select the correct option

- Explicit
- Implicit
- Onto
- One-to-one

47 AM, 08 December 2023)

$$\frac{d\,100}{dx} = \ldots\ldots\ldots ?$$

0

1

0.1

100

Click to Save Answer

The derivative of $(x^2) + 2sinx$ w.r.t x is

Select the correct option

○	-2x+2sinx
○	2x-2cosx
○	-2x-2cosx
●	2x+2cosx

December 2023)

If $w = \sin x$ and $x = t$ then $\frac{dw}{dt} =$.....

$-\cos x$

$-\cos t$

$\cos x$ ✓

$\cos t$

06 December 2023)

If $y = f(u)$ and $u = g(x)$, then $\frac{dy}{dx}$ =..... (using *chain rule*).

$(\frac{du}{dy})(\frac{dx}{du})$

$(\frac{dy}{du})(\frac{du}{dx})$

$(\frac{dy}{du})(\frac{dx}{du})$

$(\frac{du}{dy})(\frac{dy}{dx})$

The derivative of $(x^2+1)^2$ *is* .....

$4x(x+1)$

$4x(x^2+1)$ ✓

$4x^2$

$2x$

If $f(x) = (\sec x + x^4)^5$ *, then the derivative of* $f(x)$ *is* _____.

$5(\sec x + x^4)^4(\sec(x)\tan(x) - 4x^3)$.

$5(\sec x + x^4)^4$.

$5(\sec x + x^4)^4(\sec(x)\tan(x) + 4x^3)$.

If the slope of a function is zero, then which of the following is true about it.

Select the correct option

- The function should be a quadratic.
- The function should be a linear.
- None of these.
- The function should be a constant.

Question # 3 of 10 (Start time: 09:04:10 PM, 06 December 2023)

If 2cosx+siny=0 then dy/dx= 2sinx/cosy

Select the correct option

- False
- True

Question # 9 of 10 (Start time: 09:11:04 PM, 06 December 2023

The graph of function y=2 is a.....line with slope 0,is

Select the correct option

- Vertical
- Horizontal

Learning Man...

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nber 2023)

If $f(x) = x^5$ and $g(x) = x^2$, then the derivative of $f(x) \times g(x)$ is

$7x^6$

$7x^2$

$6x^3$

NONE

$3x^2$

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$\frac{d}{dx}(2\cos x + \sin y) = 0$

$2(-\sin x) + \cos y \frac{dy}{dx}$

$\cos y \frac{dy}{dx} = 2\sin x$

$\frac{dy}{dx} = \frac{2\sin x}{\cos y}$

$\frac{-3}{5x^2}$

$g(x) \neq 0$, the $\frac{1}{g(x)}$ is differentiable at x and

e quotient rule!!

we can generalize Power Rule (Theorem3.3.1) for all integers

$= x^{n-1}$

$(\sec x + x^4)^5$

$5(\sec x + x^4)^4 \cdot (\sec x \tan x + 4x^3)$

Question # 8 of 10 (Start time: 09:09:49 PM, 06 December 2023)

The derivative of f(x)=xlnx can be found by using_____.

Select the correct option

- Power rule
- None of these
- Product rule
- Chain rule

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er 2023)

The derivative of $\frac{1}{-x+1}$ with respect to x is

- $1/(1-x)$
- $1/(1-x)^2$
- $1/(1+x)^2$
- $(1-x)^2$

Chain rule says that if 'g' is differentiable at a point x and 'f' is differentiable at the point g(x)then composition of f(g(x)) is differentiable at the point 'x'.

Select the correct option

- True
- False

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Question # 1 of 10 (Start time: 09:02:22 PM, 06 Decembe

The derivative of 'g(x) = Cotx' at x = 0 is-----

Select the correct option

- 1
- +Infinity
- -Infinity
- -1