



## MTH101 QUIZ(1)

Lecture: 14 to 18

### **RIZ MUGHAL** **SQA ENGINEER:**

I'm providing 100% correct quiz solution.

You can visit my YouTube channel for more quiz solution, also final year project including project assignments, and viva.

### **YOUTUBE:**

<https://www.youtube.com/channel/UCINsFwDiB62SValCcPDZbRQ/playlists>

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<https://www.facebook.com/groups/923887914750307>

MTH101:Quiz 1

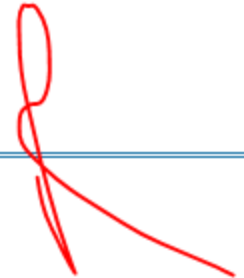
Question # 1 of 10 ( Start time: 12:44:40 PM, 04 June 2021 )

If  $f(x)=8x$  ,then  $f'(2)$  is.....

Select the correct option

<input type="radio"/>	2
<input type="radio"/>	3
<input type="radio"/>	4
<input checked="" type="radio"/>	8

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Question # 2 of 10 ( Start time: 12:45:46 PM, 04 June 2021 )

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

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

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Question # 3 of 10 ( Start time: 12:46:26 PM, 04 June 2021 )

If  $y=2x$  then instantaneous rate of change of 'y' w.r.t 'x' at 'x =-2' is .....

Select the correct option

- |                                  |    |
|----------------------------------|----|
| <input type="radio"/>            | 3  |
| <input type="radio"/>            | -1 |
| <input checked="" type="radio"/> | 2  |
| <input type="radio"/>            | 1  |

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Question # 4 of 10 ( Start time: 12:46:56 PM, 04 June 2021 )

$$d(-2x+3\cos x)/dx=...$$

Select the correct option

- |                                  |          |
|----------------------------------|----------|
| <input type="radio"/>            | 2-3sinx  |
| <input checked="" type="radio"/> | -2-3sinx |
| <input type="radio"/>            | 2+3sinx  |
| <input type="radio"/>            | -2+3sinx |

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Question # 5 of 10 ( Start time: 12:47:19 PM, 04 June 2021 )

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

Select the correct option

Reload

- |                                  |  |
|----------------------------------|--|
| <input checked="" type="radio"/> | $5(\sec x + x^4)^4(\sec(x) \tan(x) + 4x^3).$ |
| <input type="radio"/>            | $5(\sec x + x^4)^4.$                         |
| <input type="radio"/>            | $5(\sec x + x^4)^4(\sec(x) \tan(x) - 4x^3).$ |
| <input type="radio"/>            | None of these.                               |
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- R*

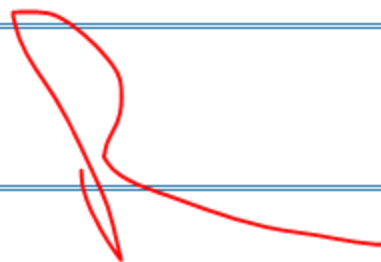
Question # 6 of 10 ( Start time: 12:47:41 PM, 04 June 2021 )

For the curve  $f(t) = -23t+25$ , the slope of the tangent line at point 't = -1' is \_\_\_\_\_.

Select the correct option

- 25
- 23
- 25
- 23

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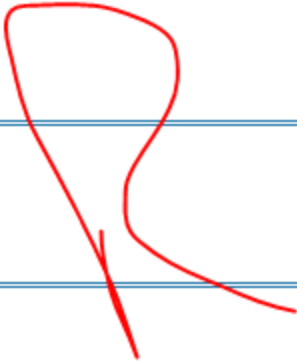


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Question # 7 of 10 ( Start time: 12:48:01 PM, 04 June 2021 )

The derivative of  $\sin(2x)$  is

Select the correct option

- |                                  |                    |
|----------------------------------|--------------------|
| <input type="radio"/>            | $\cos x$           |
| <input type="radio"/>            | $\cos 2x$          |
| <input type="radio"/>            | $2\cos(x)$         |
| <input checked="" type="radio"/> | $\cos(2x) \cdot 2$ |
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Question # 8 of 10 ( Start time: 12:48:22 PM, 04 June 2021 )

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If  $f(x) = \sec x$  and  $g(x) = \csc(x)$ , then the derivative of  $f(x) \times g(x)$  is

Select the correct option

[Reload Math Equa](#)

- |                                  |  |
|----------------------------------|--|
| <input type="radio"/>            | None of these.                                 |
| <input checked="" type="radio"/> | $-\sec x \csc x \cot x + \csc x \sec x \tan x$ |
| <input type="radio"/>            | $-\sec x \csc x \cot x - \csc x \sec x \tan x$ |
| <input type="radio"/>            | $\sec x \csc x \cot x + \csc x \sec x \tan x$  |

MTH101:Quiz 1

Question # 9 of 10 ( Start time: 12:48:50 PM, 04 June 2021 )

The cotangent function is defined by  $\text{Cot } x = \cos x / \sin x$

Select the correct option

<input checked="" type="radio"/>	True
<input type="radio"/>	False

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Question # 10 of 10 ( Start time: 12:49:34 PM, 04 June 2021 )

Derivative of  $\cos 4x$  by using chain rule is .....

Select the correct option

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- |                                  |              |
|----------------------------------|--------------|
| <input checked="" type="radio"/> | $-4 \sin 4x$ |
| <input type="radio"/>            | $\sin 4x$    |
| <input type="radio"/>            | $-\sin 4x$   |
| <input type="radio"/>            | $4 \sin 4x$  |
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2<sup>nd</sup> account

Question # 1 of 10 ( Start time: 03:57:12 PM, 04 June 2021 )

Total

If  $y=f(x)$  then instantaneous rate of change of  $y$  with respect to  $x$  at the point  $x_0$  is given by slope of tangent line at  $(x_0, f(x_0))$

Select the correct option

<input checked="" type="radio"/>	True
<input type="radio"/>	False

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Question # 2 of 10 ( Start time: 03:57:53 PM, 04 June 2021 )

If  $f(x) = \sqrt{x}$  and  $g(x) = 4\sqrt{x}$ , then the derivative of  $\frac{f(x)}{g(x)}$  is

Select the correct option

[Reloa](#)

- |                                  |               |
|----------------------------------|---------------|
| <input checked="" type="radio"/> | None of these |
| <input type="radio"/>            | 2             |
| <input type="radio"/>            | 4             |
| <input type="radio"/>            | $x + 2$       |

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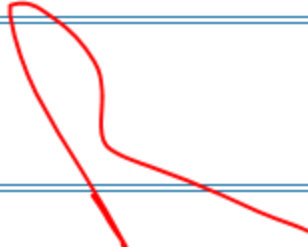
R

Question # 3 of 10 ( Start time: 03:58:15 PM, 04 June 2021 )

What is the derivative  $\tan(x^2 + x^3)$ ?

Select the correct option

[Reload Ma](#)

- |                                  |                                    |
|----------------------------------|------------------------------------|
| <input type="radio"/>            | $(2x^3 + 3x) \cos ec^2(x^2 + x^3)$ |
| <input type="radio"/>            | None of these                      |
| <input type="radio"/>            | $(2x^3 + 3x) \sec^2(x^2 + x^3)$    |
| <input checked="" type="radio"/> | $(3x^2 + 2x) \sec^2(x^2 + x^3)$    |
- 

Question # 4 of 10 ( Start time: 03:58:35 PM, 04 June 2021 )

The derivative of  $(\sin(\cos x))$  is .....

Select the correct option

Reload M

- |                                  |                              |
|----------------------------------|------------------------------|
| <input type="radio"/>            | $\cos(\cos x)$               |
| <input type="radio"/>            | $\cos(\sin x)$               |
| <input type="radio"/>            | $-\sin(\cos x) \cdot \sin x$ |
| <input checked="" type="radio"/> | $-\cos(\cos x) \cdot \sin x$ |

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Question # 5 of 10 ( Start time: 03:58:54 PM, 04 June 2021 )

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

Select the correct option

[Reload Ma](#)

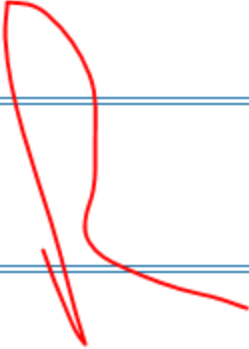
- |                                  |                      |
|----------------------------------|----------------------|
| <input checked="" type="radio"/> | $2\sec^2(x)\tan(x)$  |
| <input type="radio"/>            | $-6\sec^2(x)\tan(x)$ |
| <input type="radio"/>            | $-2\sec^2(x)\tan(x)$ |
| <input type="radio"/>            | $\sec x \tan x$      |
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- 

Question # 6 of 10 ( Start time: 03:59:14 PM, 04 June 2021 )

What is the derivative of  $2x^2 \sin(x^5)$ ?

Select the correct option

Relo

- |                                  |                    |
|----------------------------------|--------------------|
| <input type="radio"/>            | $-10x^2 \cos(x^5)$ |
| <input checked="" type="radio"/> | None of these      |
| <input type="radio"/>            | $2x^2 \cos(x^5)$   |
| <input type="radio"/>            | $10x^2 \cos(x^5)$  |
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- 

Question # 7 of 10 ( Start time: 03:59:45 PM, 04 June 2021 )

What is the derivative of  $3\cot(2x)$ 

Select the correct option

Reload

- |                                  |                                |
|----------------------------------|--------------------------------|
| <input type="radio"/>            | $-3\operatorname{cosec}^2(2x)$ |
| <input checked="" type="radio"/> | $-6\operatorname{cosec}^2(2x)$ |
| <input type="radio"/>            | None of these                  |
| <input type="radio"/>            | $6\operatorname{cosec}^2(2x)$  |

Click to Save Answer &amp; Move to

MTH101:Quiz 1

Question # 8 of 10 ( Start time: 04:00:04 PM, 04 June 2021 )

If  $f(x)=8x$  ,then  $f'(2)$  is.....


Select the correct option

- |                                  |   |
|----------------------------------|---|
| <input checked="" type="radio"/> | 8 |
| <input type="radio"/>            | 3 |
| <input type="radio"/>            | 2 |
| <input type="radio"/>            | 4 |
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-

Question # 9 of 10 ( Start time: 04:00:52 PM, 04 June 2021 )

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  $x$ .

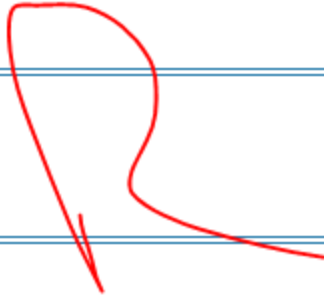
Select the correct option

- |                                  |                                  |
|----------------------------------|----------------------------------|
| <input checked="" type="radio"/> | Its average rate of change is 7. |
| <input type="radio"/>            | Its average rate of change is 9. |
| <input type="radio"/>            | None of these.                   |
| <input type="radio"/>            | Its average rate of change is 8. |
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- 

Question # 10 of 10 ( Start time: 04:01:10 PM, 04 June 2021 )

$$\text{If } u(t) = 4 \cos t, \text{ then } u'\left(\frac{\pi}{2}\right) = \dots$$

Select the correct option

- |                                  |    |
|----------------------------------|----|
| <input type="radio"/>            | 2  |
| <input checked="" type="radio"/> | -4 |
| <input type="radio"/>            | 4  |
| <input type="radio"/>            | 9  |
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3<sup>rd</sup> account

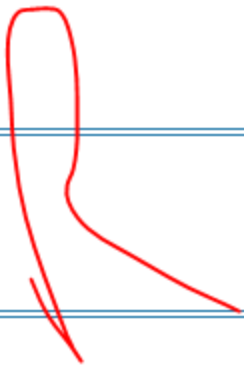
Question # 1 of 10 ( Start time: 04:10:09 PM, 04 June 2021 )

For the curve:  $f(t) = -2t+3$ , the instantaneous rate of change of 'f(t)' at 't = 1' is \_\_\_\_\_.

Select the correct option

<input checked="" type="radio"/>	-2
<input type="radio"/>	1
<input type="radio"/>	-1
<input type="radio"/>	2

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Question # 2 of 10 ( Start time: 04:10:37 PM, 04 June 2021 )

A function .....be differentiable at the point of discontinuity.

Select the correct option

<input type="radio"/>	can
<input checked="" type="radio"/>	cannot

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Question # 3 of 10 ( Start time: 04:10:56 PM, 04 June 2021 )

If  $f(x) = x \sin x^2$ , then which of the following is true about it

Select the correct option

[Reload Mat](#)

- |                                  |   |
|----------------------------------|---|
| <input type="radio"/>            | <i>Its derivative w. r. t <math>x</math> is <math>x \cos x^2 + \sin x^2</math></i>    |
| <input type="radio"/>            | <i>Its derivative w. r. t <math>x</math> is <math>2x \cos x^2 + \sin x^2</math></i>   |
| <input type="radio"/>            | <i>None of these</i>  |
| <input checked="" type="radio"/> | <i>Its derivative w. r. t <math>x</math> is <math>2x^2 \cos x^2 + \sin x^2</math></i> |

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Question # 4 of 10 ( Start time: 04:11:12 PM, 04 June 2021 )

Total

If  $f(x) = ax + bx + c$ , then its derivative with respect to  $x$  is .....

Select the correct option

[Reload Math Eq](#)

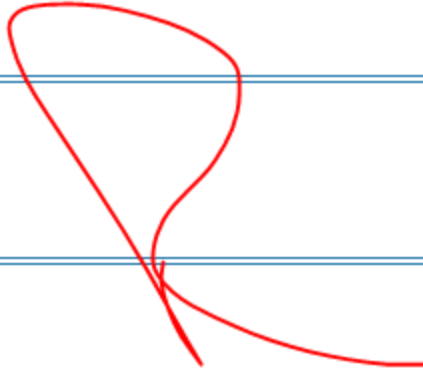
- |                                  |         |
|----------------------------------|---------|
| <input type="radio"/>            | $b + c$ |
| <input checked="" type="radio"/> | $a + b$ |

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Question # 5 of 10 ( Start time: 04:11:30 PM, 04 June 2021 )

The derivative of function:  
 $f(x) = -2(x-1) + \{5/(x-1)\}$  does not exist at  
 $x = \text{-----}$

Select the correct option

- |                                  |    |
|----------------------------------|----|
| <input type="radio"/>            | -1 |
| <input type="radio"/>            | 0  |
| <input type="radio"/>            | -5 |
| <input checked="" type="radio"/> | 1  |
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Question # 6 of 10 ( Start time: 04:11:47 PM, 04 June 2021 )

Total Mar

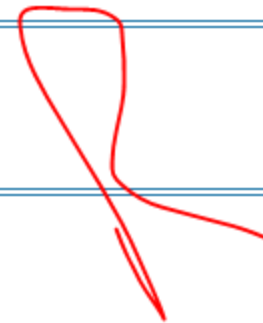
If  $f(x) = \sin x$  and  $g(x) = x^2$ , then the derivative of  $\frac{f(x)}{g(x)}$  is

Select the correct option

[Reload Math Equatio](#)

- |                                  |                                  |
|----------------------------------|----------------------------------|
| <input type="radio"/>            | $[x^2 \cos(x) + 2x \sin(x)]/x^4$ |
| <input type="radio"/>            | $[x^2 \cos(x) - 2x \sin(x)]/x^2$ |
| <input type="radio"/>            | None of these.                   |
| <input checked="" type="radio"/> | $[x^2 \cos(x) - 2x \sin(x)]/x^4$ |

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Question # 7 of 10 ( Start time: 04:12:05 PM, 04 June 2021 )

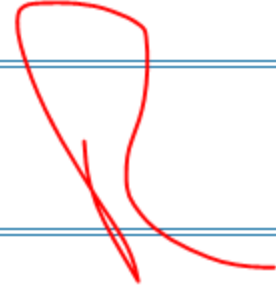
What is the derivative of  $\sin(x)$  at  $x = \pi/2$

Select the correct option

 Reload

- |                                  |               |
|----------------------------------|---------------|
| <input checked="" type="radio"/> | 0             |
| <input type="radio"/>            | None of these |
| <input type="radio"/>            | 1             |
| <input type="radio"/>            | 0.707         |

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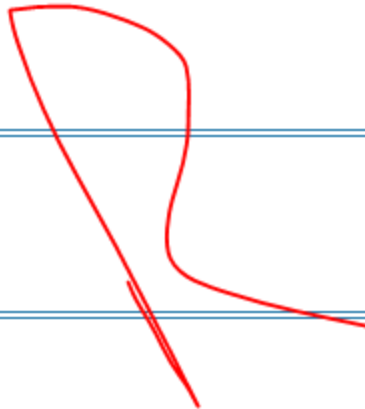
Question # 8 of 10 ( Start time: 04:12:25 PM, 04 June 2021 )

If  $(0,0)$  and  $(2,2)$  are any two points on a curve then the slope of secant line through these points is

Select the correct option

<input type="radio"/>	-1
<input type="radio"/>	-2
<input type="radio"/>	2
<input checked="" type="radio"/>	1

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Question # 9 of 10 ( Start time: 04:12:43 PM, 04 June 2021 )

The function  $f(x) = |x|$  has no derivative at  $x = 0$  because there is a \_\_\_\_\_ at that point.

Select the correct option

- |                                  |                  |
|----------------------------------|------------------|
| <input type="radio"/>            | None of these    |
| <input type="radio"/>            | Vertical tangent |
| <input checked="" type="radio"/> | Corner           |
| <input type="radio"/>            | Discontinuity    |

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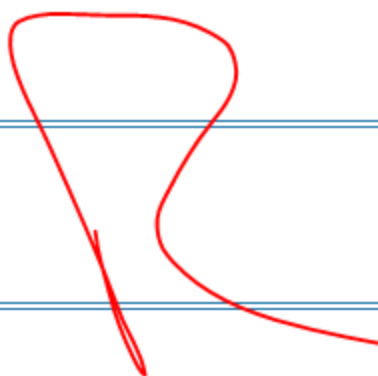
Question # 10 of 10 ( Start time: 04:13:01 PM, 04 June 2021 )

Slope of secant line joining points (2,3) and (3,2) is \_\_\_\_\_.

Select the correct option

<input checked="" type="radio"/>	-1
<input type="radio"/>	None of these
<input type="radio"/>	1
<input type="radio"/>	2

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Thank you for watching ☺

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