Pen Pals

MTH632 - Quiz 2

Solved

MTH632:Quiz # 2

Quiz Start Time: 11:34 AM, 08 June 2021

Question # 10 of 10 (Start time: 11:45:02 AM, 08 June 2021)

Total Marks: 1

A function f(z) is analytic function if _____ part f(z) is analytic.

Select the correct option

- (b) imaginary
- (d) none of these.
- (c) both (a) and (b).
- (a) real

Click to Save Answer & Move to Next Question

MTH632:Quiz # 2

Question # 9 of 10 (Start time: 11:44:14 AM, 08 June 2021)

In the complex valued function z = x - iy, the value of $U_x =$ _____.

Select the correct option

- 2
- -1
- 1
- 0



Click to s

MTH632:Quiz # 2

Quiz Start Time: 11:34 AM, 08 June 2021

Question # 8 of 10 (Start time: 11:43:24 AM, 08 June 2021)

Total Marks: 1

If $f(z) = x + ay + i(bx + cy)$ is analytic, then a, b, c equals to _____.

Select the correct option

- (●) c=1 and a= -b
- ( ) b = 1 and a = -c
- ( ) a= 1 and c= -b
- ( ) a = b = c = 1

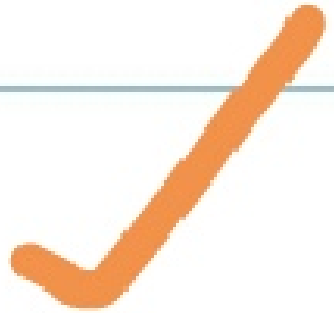
Click to Save Answer & Move to Next Question

$If\ we\ write\ the\ function\ w = z^2 - z\ as\ w = u(x,y) + iv(x,y),\ then\ v(x,y) =$

correct option

Reload

$2xy - y$



$x^2 - x - y^2$

Click to Save Answer & Move to Next Q

z # 2 Quiz Start Time: 08:50 AM, 08 J

of 10 (Start time: 08:51:33 AM, 08 June 2021) Tota

$The\ polar\ form\ of\ the\ complex\ function\ f(z) = z^3\ is$

rrect option

Reload Math E

$r^3(cos3\theta + isin3\theta)$



$r^2(cos3\theta + isin3\theta)$

Click to Save Answer & Move to Next Questio

estion # 3 of 10 (Start time: 08:52:09 AM, 08 June 2021)

$$If\ f(z) = \frac{4z^4 - 1}{(z^2 - 1)(z - 2)},\ \text{then f(z) is not analytic at z} =$$

____.

lect the correct option

Reload

- 3
- 4
- 1
- 5

Click to Save Answer & Move to Next Q

Question # 4 of 10 (Start time: 08:52:47 AM, 08 June 2021)

A function V is said to be harmonic if and only if _____.

Select the correct option

Reload

- $V_{xx} + V_{yy} = 0$
- $V_x + V_y = 0$
- $V_x^2 + V_y^2 = 0$
- $V_{xy} + V_{yx} = 0$

Click to Save Answer & Move to Next Q

Question # 5 of 10 (Start time: 08:53:22 AM, 08 June 2021)

$$If\ f(z) = \frac{z^4 + 1}{(z^2 + 1)(z - 3)},\ \text{then f(z) is not analytic at z} =$$

_____.

Select the correct option

○	1
○	4
○	-1
○	3



Click to Save Answer & Move to

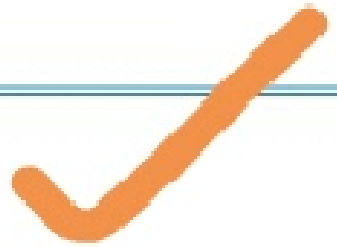
Question # 6 of 10 (Start time: 08:53:57 AM, 08 June 2021)

The Cauchy - Riemann equations on a pair of real - valued functions of two real variables $u(x, y)$ and $v(x, y)$ are $U_x = V_y$ and _____.

Select the correct option

Reloa

- $U_x = -V_y$
- $U_x = -V_x$
- $U_y = -V_x$
- $U_y = -V_y$



Click to Save Answer & Move to Nex

Question # 7 of 10 (Start time: 08:54:36 AM, 08 June 2021)

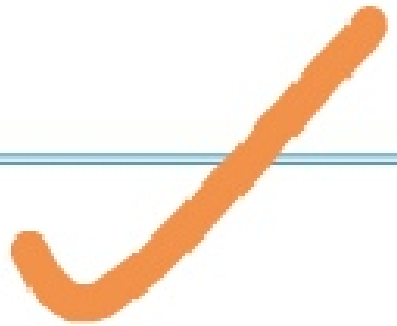
$$If\ f(z) = \frac{z^4 + 1}{(z^2 + 1)(z - 5)},\ \text{then f(z) is not analytic at z} =$$

____.

Select the correct option

Reload

○	3
○	1
○	-1
○	5



Click to Save Answer & Move to Next Q

Question # 8 of 10 (Start time: 08:55:09 AM, 08 June 2021)

$$The\ value\ of\ w = \frac{1}{z}\ when\ z = 2 - i\ is$$

Select the correct option

Relo

- $\frac{1}{5}(2+i)$
- $\frac{1}{5}(2-i)$

Click to Save Answer & Move to Nex

Question # 9 of 10 (Start time: 08:55:42 AM, 08 June 2021) Total M

If a function f(z) = u(x,y) + iv(x,y) is analytic in a domain D, then its component functions u and v are _____ in D.

Select the correct option

- steady
- equal
- homogeneous
- harmonic



Click to Save Answer & Move to Next Question

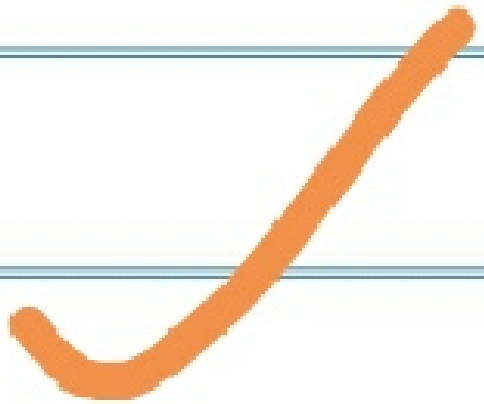
Question # 10 of 10 (Start time: 08:56:11 AM, 08 June 2021)

In the complex valued function z = x - iy, the value of $U_x =$ _____.

Select the correct option

Rel

O	-1
O	2
O	0
O	1



Click to Save Answer & Move to Ne

MTH632:Quiz # 2

Question # 1 of 10 (Start time: 09:44:33 AM, 08 June 2021)

A function V is said to be harmonic if and only if _____.

Select the correct option

- $V_{xx} + V_{yy} = 0$
- $V_x + V_y = 0$
- $V_{xy} + V_{yx} = 0$
- $V_x^2 + V_y^2 = 0$

The polar form of the complex function $f(z) = \dfrac{1}{z}$ *is*

$r(\cos\theta + i\sin\theta)$

$r(\cos\theta - i\sin\theta)$

$\dfrac{1}{r}(\cos\theta - i\sin\theta)$



$\dfrac{1}{r}(\cos\theta + i\sin\theta)$

Click to Save An

time: 10:12:21 AM, 08 June 2021)

If we write the function $w = z^2 - z$ *as* $w = u(x, y) + iv(x, y)$, *then* $u(x, y) =$

$x^2 + y^2$

$x^2 - x - y^2$

$x^2 - y^2$

e: 10:13:18 AM, 08 June 2021)

$If\ we\ write\ the\ function\ w = z^2 - z\ as\ w = u(x,y) + iv(x,y),\ then\ v(x,y) =$

$2xy - y$



$x^2 - x - y^2$

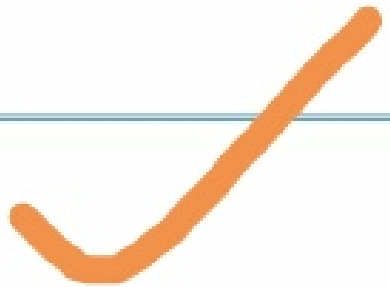
Click to Save Answer & Move to

Question # 1 of 10 (Start time: 10:06:49 AM, 08 June 2021)
Total Marks: 1

A point at which a function ceases to be analytic is called a _____ point.

Select the correct option

- non-regular
- non-singular
- regular
- singular



Click to Save Answer & Move to Next Question

MTH632:Quiz # 2

Quiz Start Time: 10:06 AM, 08 June 2021

Question # 4 of 10 (Start time: 10:09:37 AM, 08 June 2021)

Total Marks: 1

If $f(z) = \dfrac{z^4 + 1}{(z^2 + 1)(z - 3)}$, then f(z) is not analytic at z =

Select the correct option

Reload Math Equations

- -1
- 4
- 1
- 3



Click to Save and Move to Next Question

Question # 10 of 10 (Start time: 10:15:57 AM, 08 June 2021)

If $f(z) = \dfrac{z^4 + 1}{(z^2 + 1)(z - 3)}$, then f(z) is not analytic at z = ____.

Select the correct option

○	-1
○	1
○	i
○	2



Click to Save Answer

Telenor Telenor 3.86K/s 9:45

The Cauchy - Riemann equations on a pair of real - valued functions of two real variables $u(x, y)$ and $v(x, y)$ are $U_x = V_y$ and _____.

Select the correct option

Reload Math Equations

- $U_y = -V_y$
- $U_y = -V_x$
- $U_x = -V_y$
- $U_x = -V_x$

Question # 3 of 10 (Start time: 09:47:00 AM, 08 June 2021) Total Marks: 1

A point at which a function ceases to be analytic is called a _____ point.

Select the correct option

- non-regular
- regular
- singular
- non-singular

For which values of z *is* $w = \dfrac{1}{z}$ *defined?*

w *is defined for all* $z = 0$.

w *is defined for all* $z \neq 0$.



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Question # 6 of 10 (Start time: 09:50:48 AM, 08 June 20

Harmonic conjugate of $u(x, y) = e^y \cos x$ is _____

Select the correct option

○	$e^x \sin y + c$
○	$e^y \sin x + c$
○	$e^x \cos y + c$
○	$-e^y \sin x + c$ ✓

AM, 08 June 2021)

The polar form of the complex function $f(z) = z^3$ is

$r^2(cos3\theta + isin3\theta)$

$r^3(cos3\theta + isin3\theta)$



Click to Save

MTH632:Quiz # 2

Question # 9 of 10 (Start time: 09:55:39 AM, 08 June 2021)

$$If\ f(z) = \frac{4z^4 - 1}{(z^2 - 1)(z - 2)},$$ then f(z) is not analytic at z = ____.

Select the correct option

○	5
○	4
○	3
○	1