MC180400735: SADAQAT IQBAL AHMED

Time Left 80 sec(s)

MTH632:Grand Quiz

Quiz Start Time: 09:57 AM, 02 July 2020

Question # 30 of 30 (Start time: 10:10:49 AM, 02 July 2020) Total Marks: 1

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

Select the correct option

Reload Math Equations

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

Click to Save Answer & Move to Next Question

MC180400735: SADAQAT IQBAL AHMED

Time Left 85 sec(s)

MTH632:Grand Quiz

Quiz Start Time: 09:57 AM, 02 July 2020

Question # 28 of 30 (Start time: 10:09:46 AM, 02 July 2020)

Total Marks: 1

If f(z)=z^2, then f(x+iy)= _____.

Select the correct option

Reload Math Equations

- $x^2 - y^2 + 2xyi$
- $x^2 + y^2 - 2xyi$
- $x^2 + y^2 i - 2xyi$
- $x^2 - y^2 i - 2xyi$

correct

Click to Save Answer & Move to Next Question

MC180400735: SADAQAT IQBAL AHMED

Time Left 78 sec(s)

MTH632:Grand Quiz

Quiz Start Time: 09:57 AM, 02 July 2020

Question # 23 of 30 (Start time: 10:08:01 AM, 02 July 2020)

Total Marks: 1

Given a complex - valued function $s(t)$, a rotation by an angle $\frac{\pi}{3}$ is given by _____.

Select the correct option

Reload Math Equations

- $e^{\frac{3i\pi}{\top}}s(t)$
- $e^{\frac{3i\pi}{\top}}s(t)$
- correct $e^{\frac{i\pi}{\top}}s(t)$
- none of the above

Click to Save Answer & Move to Next Question

MC180400735: SADAQAT IQBAL AHMED

Time Left 79 sec(s)

MTH632:Grand Quiz

Quiz Start Time: 09:57 AM, 02 July 2020

Question # 20 of 30 (Start time: 10:07:02 AM, 02 July 2020)

Total Marks: 1

If f approaches two complex numbers $L_1 \neq L_2$ for two different curves or paths through z_0 then the $\lim_{z \to z_0} f(z)$ _____.

Select the correct option

Reload Math Equations

- exists
- does not exist

correct

Click to Save Answer & Move to Next Question

MC180400735: SADAQAT IQBAL AHMED

Time Left 79 sec(s)

MTH632:Grand Quiz

Quiz Start Time: 09:57 AM, 02 July 2020

Question # 17 of 30 (Start time: 10:05:51 AM, 02 July 2020)

Total Marks: 1

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

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

Click to Save Answer & Move to Next Question

MC180400735: SADAQAT IQBAL AHMED

Time Left 85 sec(s)

MTH632:Grand Quiz

Quiz Start Time: 09:57 AM, 02 July 2020

Question # 15 of 30 (Start time: 10:04:47 AM, 02 July 2020) Total Marks: 1

Let z = 1 + i, then arg(z) = _____.

Select the correct option

Reload Math Equations

- 2π/4
- 3π/4
- 4π/4
- π/4

correct

Click to Save Answer & Move to Next Question

MC180400735: SADAQAT IQBAL AHMED

Time Left 84 sec(s)

MTH632:Grand Quiz

Quiz Start Time: 09:57 AM, 02 July 2020

Question # 14 of 30 (Start time: 10:04:05 AM, 02 July 2020)

Total Marks: 1

$$\lim_{(x,y)\to(1,2)} 3xy^2 - y = \_\_\_\_\_$$

Select the correct option

Reload Math Equations

- 8
- 9
- 10
- 11

correct

Click to Save Answer & Move to Next Question

MC180400735: SADAQAT IQBAL AHMED

Time Left 79 sec(s)

MTH632:Grand Quiz

Quiz Start Time: 09:57 AM, 02 July 2020

Question # 11 of 30 (Start time: 10:01:19 AM, 02 July 2020)

Total Marks: 1

Product of complex numbers (3 + 2i) and (1+7i) is _____.

Select the correct option

- 3+9i
- 4+9i
- -11+23i

correct

- 3+14i

Click to Save Answer & Move to Next Question

MC180400735: SADAQAT IQBAL AHMED

Time Left 83 sec(s)

MTH632:Grand Quiz

Quiz Start Time: 09:57 AM, 02 July 2020

Question # 3 of 30 (Start time: 09:58:04 AM, 02 July 2020) Total Marks: 1

Let z = 7 i, then arg(z) = _____.

Select the correct option

Reload Math Equations

- π/4
- π/2 correct
- π/3
- π/6

Click to Save Answer & Move to Next Question

MC180400735: SADAQAT IQBAL AHMED

Time Left 83 sec(s)

MTH632:Grand Quiz

Quiz Start Time: 09:57 AM, 02 July 2020

Question # 2 of 30 (Start time: 09:57:21 AM, 02 July 2020)

Total Marks: 1

By definition, $\lim_{z \to z_0} f(z) = L$ means that for every $\varepsilon > 0$ there exists a $\delta > 0$ such that _____.

Select the correct option

Reload Math Equations

- $|f(z) - L| < \varepsilon$ whenever $0 < |z - z_0| < \delta$
- $|f(z) - z_0| < \varepsilon$ whenever $0 < |z - L| < \delta$
- $|f(z) - L| < \delta$ whenever $0 < |z - z_0| < \varepsilon$
- $|f(z) - z_0| < \delta$ whenever $0 < |z - L| < \varepsilon$

Click to Save Answer & Move to Next Question

MC180402031: SALEHA WAHEED

Time Left 85 sec(s)

MTH632:Grand Quiz

Quiz Start Time: 07:02 AM, 02 July 2020

Question # 17 of 30 (Start time: 07:12:19 AM, 02 July 2020)

Total Marks: 1

Suppose that $\lim_{z \to z_0} f(z) = A$ and $\lim_{z \to z_0} g(z) = B$, then choose the correct option.

Select the correct option

Reload Math Equations

- $\lim_{z \to z_0}[f(z) + g(z)] = A + B$ correct
- $\lim_{z \to z_0}[f(z) + g(z)] = A - B$
- $\lim_{z \to z_0}[f(z) + g(z)] = A \cdot B$
- $\lim_{z \to z_0}[f(z) + g(z)] = \frac{A}{B}$

Click to Save Answer & Move to Next Question

The function $u(x,y) = \dfrac{xy}{x^2+y^2}$ does not have a limit when _____

option

$(x,y) \to (1,1)$

$(x,y) \to (0,1)$

$(x,y) \to (1,0)$

$(x,y) \to (0,0)$

correct

MTH632:Grand Quiz

Quiz Start Time: 06:35 PM, 01 July 2020

Question # 23 of 30 (Start time: 06:48:57 PM, 01 July 2020)

Total Marks: 1

If two complex - valued functions f and g satisfy conditions $g(f(z)) = z$ and $f(g(w)) = w$, then these functions are_____of each other.

Select the correct option

Reload Math Equations

- conjugates
- inverses
- reciprocals
- none of the above

correct

MC180201604: AZKA SALOMI

Time Left 90 sec(s)

MTH632:Grand Quiz

Quiz Start Time: 05:04 PM, 01 July 2020

Question # 17 of 30 (Start time: 05:11:02 PM, 01 July 2020) Total Marks: 1

A complex-valued linear transformation is always _____ on the entire complex plane.

Select the correct option

- only one-to-one
- only onto
- one-to-one and onto
- none of the above

correct

Click to Save Answer & Move to Next Question

Quiz Start Time: 11:50 AM, 01 July 2020

Question # 5 of 30 (Start time: 11:53:51 AM, 01 July 2020) Total Marks: 1

In the complex valued function $z = x - iy$, the value of $\{U_x\} = \_\_\_\_\_$

Select the correct option

Reload Math Equations

○	-1
○	0
○	1
○	2

correct

11:54 PM
6/30/2020

$k=0 \quad = \quad \sqrt{3} - i$

$k=1 \quad = \quad -\sqrt{3} - i$

$k=2 \quad = \quad 2i$

Question # 17 of 30 (Start time: 11:19:18 AM, 01 July 2020)

Quiz Start Ti

A complex-valued function of the form

$$L(z) = Az + B,$$

where

Select the correct option

○	linear
○	quadratic
○	cubic
○	none of the above

correct

Question # 14 of 30 (Start time: 10:19:55 AM, 01 July 2020)

A connected open set is called a _____.

Select the correct option

- domain
- range
- closed set
- unbounded set

correct

MC180402225: ASMA BILAL

MTH632:Grand Quiz Quiz St

Question # 18 of 30 (Start time: 09:49:03 AM, 01 July 2020)

The complex number

$$(4i)^4$$

have _____ number of roots.

Select the correct option

○	1
○	2
○	3
○	4

correct

Click to Save Ans

MC180402225: ASMA BILAL

MTH632:Grand Quiz

Question # 12 of 30 (Start time: 09:44:20 AM, 01 July 2020)

Let z = 3, then arg(z) = _____.

Select the correct option

○	0 degree
○	60 degree
○	90 degree
○	270 degree

correct

MC180402225: ASMA BILAL

Time Left 87 sec(s)

MTH632:Grand Quiz

Quiz Start Time: 09:34 AM, 01 July 2020

Question # 16 of 30 (Start time: 09:46:47 AM, 01 July 2020) Total Marks: 1

The Jordan Curve Theorem guarantees that a simple closed curve must enclose a region.

Select the correct option

- Euler curve
- Jordan curve
- Simple curve
- Rotation curve

Click to Save Answer & Move to Next Question

A complex-valued linear transformation could be a composition of _____.

Select the correct option

- translation
- rotation
- magnification
- all of the above

correct

MTH632:Grand Quiz

Question # 10 of 30 (Start time: 09:41:15 AM, 01 July 2020)

If -8i = 8 exp[i (-π/2+2kπ)], then the root of

$$(-8i)^{1/3}$$

for k=1 is _____.

Select the correct option

○	3i
○	-3i
○	2i
○	-2i

correct

Question # 28 of 30 (Start time: 08:49:02 AM, 01 July 2020)
Total Marks: 1

If $f(z) = z^3$, $g(z) = z + 2$, then $g(f(5)) =$

Select the correct option

Reload Math Equations

- 7
- 125
- 127
- 130

correct

MC180404545: SABEEHA AKRAM

MTH632:Grand Quiz

Question # 30 of 30 (Start time: 08:50:56 AM, 01 July 2020)

Let z = 1 + i. then arg(z) = _____.

Select the correct option

- 2π/4
- 3π/4
- 4π/4
- π/4

correct

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MC180404545: SABEEHA AKRAM

MTH632:Grand Quiz

Question # 29 of 30 (Start time: 08:50:06 AM, 01 July 2020)

If U and V are harmonic functions then $f(Z) = U + iV$ is _____.

Select the correct option

- analytic function

correct

- need not be analytic function.
- analytic function only at Z=0.
- None of these.

MC180404545: SABEEHA AKRAM

MTH632-Grand Quiz

Question # 6 of 30 (Start time: 08:18:36 AM, 01 July 2020)

If $-8i = 8 \exp[\, i\,(-\pi/2+2k\pi)\,]$. then the root of

for $k=0$ is _____.

Select the correct option

○	$\sqrt{3}-i$ correct
○	$\sqrt{3}+i$
○	$2(\sqrt{3}-i)$
○	$2(\sqrt{3}+i)$

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MC180404545: SABEEHA AKRAM

MTH632:Grand Quiz

Question # 5 of 30 (Start time: 08:17:11 AM, 01 July 2020)

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

Select the correct option

- $e^y \sin x + c$ — correct
- $-e^y \sin x + c$
- $e^x \sin y + c$
- $e^x \cos y + c$

Quiz

MC180404580: NAVEED AHMED

Time Left 86 sec(s)

MTH632:Grand Quiz

Quiz Start Time: 08:10 AM, 01 July 2020

Question # 22 of 30 (Start time: 08:34:00 AM, 01 July 2020)

Total Marks: 1

The Jordan Curve Theorem guarantees that a simple closed curve must enclose a region.

Select the correct option

- Euler curve
- Jordan curve

correct

- Simple curve
- Rotation curve

Click to Save Answer & Move to Next Question

Quiz

MC180404580: NAVEED AHMED

Time Left 85 sec(s)

MTH632:Grand Quiz

Quiz Start Time: 08:10 AM, 01 July 2020

Question # 18 of 30 (Start time: 08:30:20 AM, 01 July 2020)

Total Marks: 1

Mapping is _____ way of visualizing a given function.

Select the correct option

- an analytical
- a geometrical

correct

- a numerical
- none of the above

Click to Save Answer & Move to Next Question

Question # 12 of 30 (Start time: 08:26:22 AM, 01 July 2020)

Total Marks:

A complex power function is a function of the form _____, where

a

is a complex constant

Select the correct option

Reload Math Equations

○	$f(z) = z^a$ correct
○	$f(z) = a^z$
○	$f(a) = z^a$
○	$f(a) = a^z$

Quiz

MC180404580: NAVEED AHMED

Time Left 83 sec(s)

MTH632:Grand Quiz

Quiz Start Time: 08:10 AM, 01 July 2020

Question # 24 of 30 (Start time: 08:35:41 AM, 01 July 2020) Total Marks: 1

Any polynomial $p(z) = a_0 + a_1 z + a_2 z^2 + \ldots + a_n z^n \ (a_n \neq 0)$, of degree $n (n \geq 1)$ has least one zero, i.e. there exists at least _____ z_0, such that $P(z_0) = 0$.

Select the correct option

Reload Math Equations

- n points
- 10 points
- one point
- no points

correct

Click to Save Answer & Move to Next Question

Question # 30 of 30 (Start time: 08:07:52 AM, 01 July 2020)

Total Marks: 1

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

Select the correct option

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

correct

Quiz

MC180404580: NAVEED AHMED

Time Left 88 sec(s)

MTH632:Grand Quiz

Quiz Start Time: 08:10 AM, 01 July 2020

Question # 1 of 30 (Start time: 08:10:46 AM, 01 July 2020) Total Marks: 1

Let z = 1 + i, then r = _____.

Select the correct option

Reload Math Equations

- √2 — correct
- √3
- 2
- 1

Click to Save Answer & Move to Next Question

Quiz

MC180404580: NAVEED AHMED

Time Left 85 sec(s)

MTH632:Grand Quiz

Quiz Start Time: 08:10 AM, 01 July 2020

Question # 13 of 30 (Start time: 08:24:31 AM, 01 July 2020) Total Marks: 1

$$If\ f(z) = z^2,\ g(z) = \frac{1}{z},\ \text{then}\ g(f(4)) =$$

_____

Select the correct option

Reload Math Equations

- 4
- 16
- 1/4
- 1/16

correct

Click to Save Answer & Move to Next Question

Quiz

MC180404580: NAVEED AHMED

Time Left 86 sec(s)

MTH632:Grand Quiz

Quiz Start Time: 08:10 AM, 01 July 2020

Question # 7 of 30 (Start time: 08:18:18 AM, 01 July 2020) Total Marks: 1

If f(z)=z^2, then f(x+iy)= _____.

Select the correct option

Reload Math Equations

○	$x^2 - y^2 + 2xyi$
○	$x^2 + y^2 - 2xyi$
○	$x^2 + y^2 i - 2xyi$
○	$x^2 - y^2 i - 2xyi$

correct

Click to Save Answer & Move to Next Question

Quiz

MC180404580: NAVEED AHMED

Time Left 87 sec(s)

MTH632:Grand Quiz

Quiz Start Time: 08:10 AM, 01 July 2020

Question # 11 of 30 (Start time: 08:22:07 AM, 01 July 2020)

Total Marks: 1

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

- equal
- steady
- harmonic

correct

- homogeneous

Click to Save Answer & Move to Next Question

Quiz

MC180404580: NAVEED AHMED

Time Left 79 sec(s)

MTH632:Grand Quiz

Quiz Start Time: 08:10 AM, 01 July 2020

Question # 8 of 30 (Start time: 08:19:22 AM, 01 July 2020)

Total Marks: 1

Let z = 7 i, then r = _____.

Select the correct option

- 1
- 2
- 4
- 7

correct

Click to Save Answer & Move to Next Question

Quiz

MC180404580: NAVEED AHMED

Time Left 81 sec(s)

MTH632:Grand Quiz

Quiz Start Time: 08:10 AM, 01 July 2020

Question # 9 of 30 (Start time: 08:20:00 AM, 01 July 2020) Total Marks: 1

$If\ Cauchy-Riemann\ equations\ are\ not\ satisfied\ at\ a\ point\ z_0\ then\ function\ is\ not\ \_\_\_\_\_\ at\ z_0.$

Select the correct option

Reload Math Equations

- integrable
- differentiable

correct

Click to Save Answer & Move to Next Question

Quiz

MC180404580: NAVEED AHMED

Time Left 86 sec(s)

MTH632:Grand Quiz

Quiz Start Time: 08:10 AM, 01 July 2020

Question # 5 of 30 (Start time: 08:15:39 AM, 01 July 2020) Total Marks: 1

$Consider \lim_{z \to z_0} f(z) = A \ and \lim_{z \to z_0} g(z) = B. \ Then \lim_{z \to z_0} \frac{f(z)}{g(z)} =$ _____.

Select the correct option

Reload Math Equations

- $\frac{A}{B}, \ B \neq 0$ correct
- $A + B$
- $A - B$
- $A \, . \, B$

Click to Save Answer & Move to Next Question

Quiz

MC180404580: NAVEED AHMED

Time Left 85 sec(s)

MTH632:Grand Quiz

Quiz Start Time: 08:10 AM, 01 July 2020

Question # 3 of 30 (Start time: 08:13:17 AM, 01 July 2020) Total Marks: 1

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

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

Click to Save Answer & Move to Next Question

Quiz

MC180404580: NAVEED AHMED

Time Left 87 sec(s)

MTH632:Grand Quiz

Quiz Start Time: 08:10 AM, 01 July 2020

Question # 4 of 30 (Start time: 08:14:21 AM, 01 July 2020) Total Marks: 1

Sum of complex numbers (3 + 5i) and (4 − 3i) is _____.

Select the correct option

- 1+5i
- 7-3i
- 7+5i
- 7 + 2i

correct

Click to Save Answer & Move to Next Question

Quiz

MC180404580: NAVEED AHMED

Time Left 89 sec(s)

MTH632:Grand Quiz

Quiz Start Time: 08:10 AM, 01 July 2020

Question # 2 of 30 (Start time: 08:12:08 AM, 01 July 2020) Total Marks: 1

If $f(z) = z^3$, $g(z) = \frac{1}{z}$, then $g(f(i)) =$

Select the correct option

Reload Math Equations

- i correct
- i^2
- i^3
- -1

Click to Save Answer & Move to Next Question