MTH210

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Question:  The complex conjugate of the complex number z = a + ib is \_\_\_\_\_\_\_\_

Answer: a – ib

Question: The general polynomial in x over R of degree 2 is called \_\_\_\_ polynomial

Answer: quadratic

Question: The complex number z = x +iy is said to be purely imaginary if y is \_\_\_\_

Answer: zero

Answer: 0

Question: If z = 3 + 4i , then |z| is \_\_\_\_

Answer: 5

Question: If z = 5 - 12i , then |z| is \_\_\_\_

Answer: 13

Question: If z = -3 - 4i , then |z| is \_\_\_\_

Answer: 5

Question: If z = -5 -12i , then |z| is \_\_\_\_

Answer: 13

Question: The principle that if P(n) be a statement about a positive integer n, such that P(1) is true, and if P(m) is true for some m in N, then P(m + 1) is true, and P(n) is true for every n in Z is called \_\_\_\_\_\_\_\_\_\_

Answer: induction

Question: The sum of (-1 - 3i) and (9 - 6i) is \_\_\_\_\_\_

Answer: (8 – 9i)

Answer: 8 – 9 i

Question: The sum of (-2 - 5i) and (9 + 6i) is \_\_\_\_

Answer: (7 + i )

Answer: 7 + i

Question: The sum of (-2 - 7i) and (-9 + 6i) is \_\_\_\_

Answer: -11- i

Answer: (-11 – i)

Question: The sum of - 3i and (5 - 6i) is \_\_\_\_

Answer: (5 – 9i)

Answer: 5-9i

Question: <img src="data:image/png;base64," alt="">

Answer: De Moivre’s

Answer: D’Moivre’s

Question: <img src="@@PLUGINFILE@@/Picture41.png" alt=""> are complex numbers, then <img src="" alt="">= \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_<br>

Answer: 2(cos4+isin4)

Question: Let <img src="@@PLUGINFILE@@/Picture39.png" alt=""> are complex numbers, then <img src="" alt="">= \_\_\_\_\_\_\_\_\_\_<br>

Answer: 3i

Answer: 3i

Question: The difference between (2 - 3i) and (-5 + 8i) is \_\_\_\_

Answer: (7 – 11i)

Question: (-3 - 4 i) - (-1 -7i) is \_\_\_\_

Answer: (-2 +3i)

Answer: -2+3i

Question: The values of x and y in 3x - 5i = -12 - iy is\_\_\_\_

Answer: -4 and 5

Question: If <img src="@@PLUGINFILE@@/Picture37.png" alt=""/>= …………….

Answer: 6+3i

Question: A function f (z) is \_\_\_\_\_\_\_\_\_ at c if <img src="@@PLUGINFILE@@/Picture36.png" alt=""/>

Answer: Continuous

Question: <img src="@@PLUGINFILE@@/Picture35.png" alt=""/> are complex numbers, then

Answer: 2

Question: Let <img src="@@PLUGINFILE@@/Picture34.png" alt="">are complex numbers, then <img src="" alt="">= \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_<br>&nbsp;

Answer:

Answer:

Question: The set of all numbers that are rational is \_\_\_\_

Answer: finite

Question: If we have a function <img src="@@PLUGINFILE@@/Picture30.png" alt=""/> takes on different values as increases by <img src="@@PLUGINFILE@@/Picture29.png" alt=""/> then the point <img src="@@PLUGINFILE@@/Picture28.png" alt=""/> is called a \_\_\_\_\_\_\_\_of the function

Answer: branch point

Question: If f(z) is continuous in a closed and bounded region R, then |f(z)| is \_\_\_\_\_\_\_\_\_ in the region

Answer: bounded

Question: If an analytic function is smooth, then it is ­\_\_\_\_

Answer: infinitely differentiable

Question: A function f is \_\_\_\_\_ if it is differentiable for all points in an open disk centred at <img src="@@PLUGINFILE@@/Picture27.png" alt=""/>

Answer: holomorphic

Question: The real part of an analytic function is \_\_\_\_\_\_\_\_

Answer: harmonic

Question: (-4 - 3i) - (-2 -7i) = \_\_\_\_\_\_

Answer: (-2 + 4i)

Answer: -2+4i

Question: Let <img src="@@PLUGINFILE@@/Picture26.png" alt="">are complex numbers, then <img src="" alt="">=\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Answer: 6(1+i)

Question: (4 - 3i) + (-2 -7i) = \_\_\_\_\_\_

Answer: (2 – 10i)

Answer: 2-10i

Question: The \_\_\_\_\_\_ measures the distance between two complex numbers

Answer: absolute value

Answer: modulus

Question: <img src="@@PLUGINFILE@@/Picture22.png" alt=""/>

Answer: 2i

Question: <img src="@@PLUGINFILE@@/Picture21.png" alt=""/>

Answer: 0

Answer: zero

Question: <img src="@@PLUGINFILE@@/Picture20.png" alt=""/>

Answer:

Answer: infinity

Question: <img src="@@PLUGINFILE@@/Picture19.png" alt=""/>

Answer:

Answer: 0.2

Question: <img src="@@PLUGINFILE@@/Picture17.png" alt=""/>

Answer: 2

Answer: two

Question: <img src="@@PLUGINFILE@@/Picture16.png" alt=""/>

Answer:

Answer: 0.2

Question: A function f (z) is complex \_\_\_\_\_\_\_\_\_ at c if <img src="@@PLUGINFILE@@/Picture15.png" alt=""/>

Answer: differentiable

Question: \_\_\_\_ is used to represent complex numbers geometrically

Answer: Argand diagram

Question: A branch point is said to be of order \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ whenever a function is an n-valuedfunction in the neighbourhood <img src="@@PLUGINFILE@@/Picture14.png" alt="">

Answer: n -1

Question: Sets S and T are said to be\_\_\_\_ if every element of S is an element of T and every element of T is an element of S.

Answer: equal

Question: A line which connects two and only two branch points is called a \_\_\_\_\_\_\_

Answer: branch cut

Answer: branch line

Question: Evaluate <img src="@@PLUGINFILE@@/Picture13.png" alt="">= ------------------------

Answer: i^3-i^2+1-i

Question: If the derivative <em>ƒ </em>' of a function <em>ƒ </em>has a simple pole at a point <em>a</em>, then <em>ƒ </em>has a \_\_\_\_\_\_\_\_\_\_\_ point at <em>a.</em>

Answer: logarithmic branch

Question: Let<img src="@@PLUGINFILE@@/Picture11.png" alt=""/>be an analytic function and if either<img src="@@PLUGINFILE@@/Picture10.png" alt=""/>or <img src="@@PLUGINFILE@@/Picture9.png" alt=""/> is constant, then <img src="@@PLUGINFILE@@/Picture8.png" alt=""/> is\_\_\_\_\_\_\_

Answer: constant

Question: Let<img src="@@PLUGINFILE@@/Picture7.png" alt=""/>be an analytic function and if <img src="@@PLUGINFILE@@/Picture6.png" alt=""/> is constant <img src="@@PLUGINFILE@@/Picture5.png" alt=""/> is constant, then <img src="@@PLUGINFILE@@/Picture4.png" alt=""/> is \_\_\_\_\_\_\_

Answer: constant

Question: <img src="@@PLUGINFILE@@/Picture3.png" alt=""/>

Answer: 3

Question: <img src="@@PLUGINFILE@@/Picture2.png" alt=""/>

Answer: 4

Question: <img src="@@PLUGINFILE@@/Picture1.png" alt=""/>

Answer: 1

Question: For complex numbers <img src="@@PLUGINFILE@@/Picture119.png" alt=""/> obeys the associativity of addition property

Answer: <img src="@@PLUGINFILE@@/Picture115.png" alt=""/>

Question: The polar form of the complex number <img src="@@PLUGINFILE@@/Picture114.png" alt=""/> is given by …………….

Answer: <img src="@@PLUGINFILE@@/Picture113.png" alt=""/>

Question: The number x in the complex number x - iy is the same as ……..

Answer: Re (x + iy )

Question: The conjugate of the conjugate of a complex number is …………

Answer: the complex number

Question: The conjugate of <img src="@@PLUGINFILE@@/Picture110.png" alt=""/> is ……..

Answer: <img src="@@PLUGINFILE@@/Picture108.png" alt=""/>

Question: The numerical value of <img src="@@PLUGINFILE@@/Picture105.png" alt=""/> in complex analysis is ………..

Answer: -1

Question: <img src="@@PLUGINFILE@@/Picture103.png" alt=""> in complex analysis is equal to………..&nbsp;

Answer: 1

Question: <img src="@@PLUGINFILE@@/Picture100.png" alt=""/> in complex analysis is equal to………..

Answer: <img src="@@PLUGINFILE@@/Picture98.png" alt=""/>

Question: Two complex numbers <img src="@@PLUGINFILE@@/Picture96.png" alt=""> are equal if

Answer: <img src="@@PLUGINFILE@@/Picture94.png" alt=""/>

Question: If <img src="@@PLUGINFILE@@/Picture91.png" alt=""/> is a complex number, then z is said to be ………… if y = 0

Answer: purely real

Question: The harmonic conjugate of the harmonic function <img src="@@PLUGINFILE@@/Picture90.png" alt=""/> is given by

Answer: <img src="@@PLUGINFILE@@/Picture86.png" alt=""/>

Question: In an Argand diagram, the purely imaginary numbers lie along the ……………

Answer: y-axis

Question: The complex conjugate of the conjugate of the complex number <img src="@@PLUGINFILE@@/Picture85.png" alt=""/> is ……….

Answer: <img src="@@PLUGINFILE@@/Picture82.png" alt=""/>

Question: One of the following is a complex number

Answer: None of the options

Question: If <img src="@@PLUGINFILE@@/Picture78.png" alt=""/>= ………………

Answer: 5

Question: |z| = …… if <img src="@@PLUGINFILE@@/Picture76.png" alt=""/>

Answer: 4

Question: Find |z| if <img src="@@PLUGINFILE@@/Picture75.png" alt=""/>

Answer: 7

Question: The complex number <img src="@@PLUGINFILE@@/Picture73.png" alt=""/> has its polar form given by …………….

Answer: <img src="@@PLUGINFILE@@/Picture69.png" alt=""/>

Question: One of the following statements in not correct if f(z) = u + v is an analytic function

Answer: a non-constant analytic function can take only real or only pure imaginary values

Question: Let <img src="@@PLUGINFILE@@/Picture68.png" alt=""/> be a complex function, then <img src="@@PLUGINFILE@@/Picture67.png" alt=""/> is analytic in a domain D iff

Answer: v is a harmonic conjugate to u in D

Question: Let <img src="@@PLUGINFILE@@/Picture66.png" alt=""/> be a complex number , then the argument of z is

Answer: <img src="@@PLUGINFILE@@/Picture64.png" alt=""/>

Question: Let <img src="@@PLUGINFILE@@/Picture61.png" alt=""/> = ………………

Answer: <img src="@@PLUGINFILE@@/Picture57.png" alt=""/>

Question: Let <img src="@@PLUGINFILE@@/Picture56.png" alt=""/>

Answer: <img src="@@PLUGINFILE@@/Picture55.png" alt=""/>

Question: In an Argand diagram, the purely real numbers lie along the ……………

Answer: x-axis

Question: All but one of the following are true

Answer: The differences of analytic functions are analytic

Question: ----- is the branch cut of inverse cosecant

Answer: (-1,1)

Question: The distributive property for the complex numbers <img src="@@PLUGINFILE@@/Picture51.png" alt=""/> is given by

Answer: <img src="@@PLUGINFILE@@/Picture47.png" alt=""/>

Question: An example of Branch points is

Answer: All the options are examples

Question: One of the following is true about a continuous function

Answer: all the options are true for a continuous function

Question: One of the following conditions is not equivalent to others ifis an infinitely differentiable function defined on an open set <img src="@@PLUGINFILE@@/Picture46.png" alt=""/>

Answer: f is a compact function

Question: A function f(z) is complex differentiable at c if

Answer: <img src="@@PLUGINFILE@@/Picture42.png" alt=""/>

Question: One of the following is not an analytic function

Answer: Absolute value function

Question: A function f is called ……. if it is differentiable for all points in an open disk centred at <img src="@@PLUGINFILE@@/Picture38.png" alt="">

Answer: holomorphic

Question: <img src="@@PLUGINFILE@@/Picture37.png" alt=""/> has …….. real solutions

Answer: no

Question: One of these expresses commutative law

Answer: <img src="@@PLUGINFILE@@/Picture33.png" alt=""/>

Question: All but one of the following are true about a complex number

Answer: The imaginary part of <img src="@@PLUGINFILE@@/Picture31.png" alt=""/>

Question: If <img src="data:image/png;base64," alt="">and , then <img src="" alt="">

Answer: <img src="" alt=""><br>

Question: The Fundamental Theorem of Algebra states that

Answer: Every non-constant polynomial with coefficients in the set of complex numbers, C (or set of real numbers, R) has a root in C

Question: If <img src="@@PLUGINFILE@@/Picture28.png" alt=""/>

Answer: <img src="@@PLUGINFILE@@/Picture25.png" alt=""/>.

Question: Simplify <img src="@@PLUGINFILE@@/Picture23.png" alt=""/>

Answer: <img src="@@PLUGINFILE@@/Picture21.png" alt=""/>

Question: <img src="@@PLUGINFILE@@/Picture18.png" alt=""/>= ……………….

Answer: 4

Question: Evaluate <img src="@@PLUGINFILE@@/Picture16.png" alt="">using Euler’s equation

Answer: -1

Question: One of the properties of the square of the absolute value is

Answer: <img src="@@PLUGINFILE@@/Picture15.png" alt=""/>

Question: Let <img src="@@PLUGINFILE@@/Picture11.png" alt=""> , evaluate <img src="" alt="">

Answer: <img src="@@PLUGINFILE@@/Picture8.png" alt=""/>

Question: The absolute value of the conjugate of a complex number is the …….

Answer: absolute value of the complex number

Question: Given that <img src="@@PLUGINFILE@@/Picture7.png" alt=""/>then z in polar form would be

Answer: <img src="@@PLUGINFILE@@/Picture6.png" alt=""/>

Question: The conjugate of the quotient of two complex numbers is the same as

Answer: quotient of the conjugates of the two complex numbers provided the denominator is not zero

Question: Evaluate the modulus of 3 -7i

Answer: 58

Question: The modulus of -3+7i is

Answer: 58

Question: If an analytic function is smooth, then it is ……..

Answer: infinitely differentiable