

	<b>&lt;</b>
	>
Questions	
Problem Sta	tement
	(graded, results hidden) your answer to 3 decimal points)
Let <i>f</i> (z) be the pri Log z).	ncipal branch of $z^{-i}$ . (Remember that there is a difference between $\log z$ and
A. Find <i>f</i> ( <i>i</i> )	

nπ		
2exp( <i>n</i> π)		

C. Let us consider for some integers  $n, P = \frac{f(z_1)f(z_2)}{f(z_1z_2)}$ . Find Pfor n = -1, 0, and 1

- $\exp(\pi)$ , 0,  $\exp(-\pi)$
- $-\pi$ , 2,  $\pi$
- $\exp(-2\pi)$ , 1,  $\exp(2\pi)$
- $2\exp(-\pi)$ , 2,  $2\exp(\pi)$

D. What is the branch point of  $\ln \left( \frac{z+1}{z-1} \right)$ ?

- $\int \ln \left( \frac{z+1}{z-1} \right)$  has no branch point(s).
- $z = \pm 1$
- z = 0
- z = 2

Submit

You have used 0 of 1 attempt

## **Problem Statement**

5.0 points possible (graded, results hidden)

(Note: Round off your answer to 3 decimal points)

Let Z = 1 + i and C = 1 - i. Our goal is to obtain  $Z^{C}$ . (Only consider the principle value)

## A. Which of the following is true?

	7C	_	exn(C	Log( <i>Z</i> ))
	<b>       </b>	=	exp(C	LOG(Z))

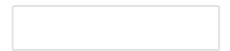
$\Box Z^{C} =$	C Log(Z)
----------------	----------

$$Z^C = C (ln(|Z|) + i(arg(Z))$$

B. If  $Z^{C} = \exp(W)$ , what is the value of Re(W) + Im(W)?

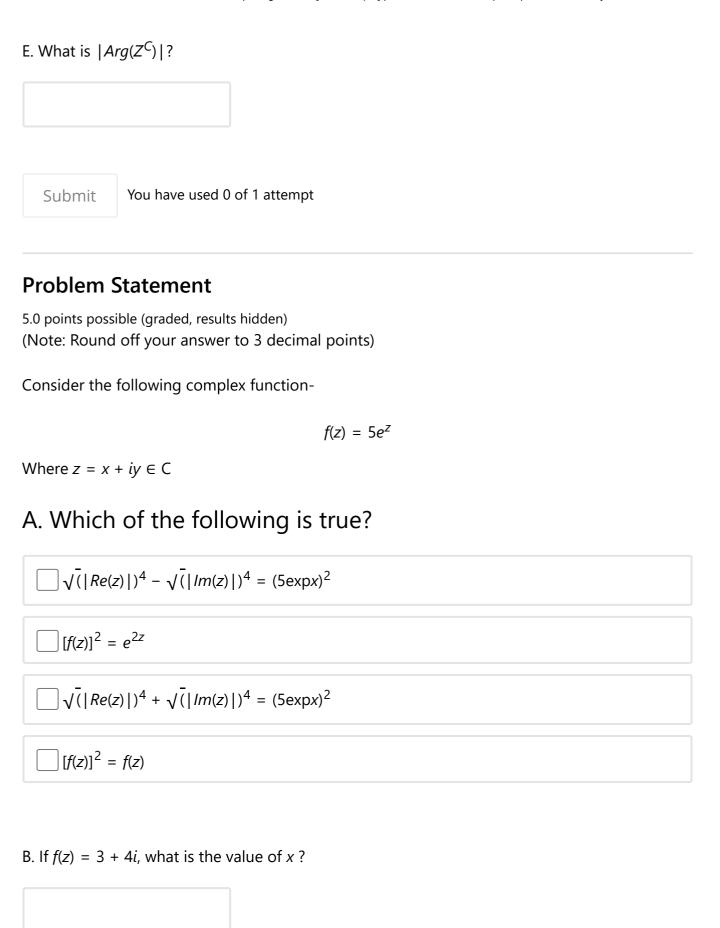


C. If  $Z^C = \exp(W)$ , and  $Re(W) - Im(W) = \ln(P)$ , what is P?



D. If  $|Z^C| = \sqrt{(2)}e^{Q\pi}$ , what is the value of Q?



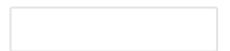


C. If $f(z) = 5 - 5i$ , what is the value of $y$ ?				
D. Find the general form of $z$ , if				
$f(z) = 5e^z = 5 + 5i$				
E. Find the value of z, if $n = 0$ , $\pm 1$ , $\pm 2$				
Submit You have used 0 of 1 attempt				
Problem Statement				
5.0 points possible (graded, results hidden) (Note: Round off your answer to 3 decimal points)				
Consider the following complex function-				
$f(z) = 2e^z$				
Where $z = x + iy \in C$				
A. Which of the following is true?				
$\int f(z) = e^x e^{iy}$				

 $\int f(z) = e^x + e^{iy}$ 

$\Box$ $\sqrt{F}$	$\sqrt{Re(f(z))^2 + Im(f(z))^2}$	$\frac{1}{Re(f(z))^2 + Im(f(z))^2}$		
f(z) =	2	— e <sup>9</sup>		

B. If f(z) = 3 + 4i, what is the value of x?



C. If f(z) = -4i, what is the value of y? (Ignore the multiplicity)



D.

$$\left| f(\ln \frac{1}{4} + \theta) f(\ln \frac{1}{4} - \theta) \right| = ?$$



E.

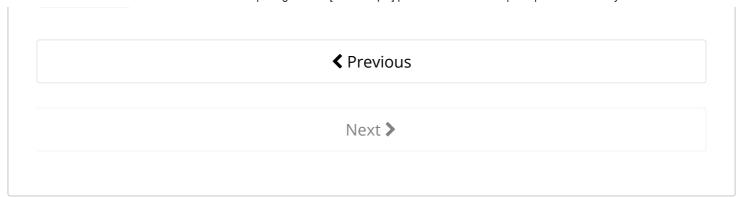
$$arg(f(\ln\frac{1}{4} + \theta)f(\ln\frac{1}{4} - \theta)) = ?$$

(Consider the principle argument only)



Submit

You have used 0 of 1 attempt



© All Rights Reserved

About Us

BracU Home

USIS

Course Catalog

Copyright - 2020