

<u>Help</u>

dougsweetser -

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Problem 4.4

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Homework due Nov 14, 2020 19:00 EST

Problem 4.4

0.0/3.0 points (graded)

Let μ be a real number and D be an entire complex plane with the branchcut $z \in [0,1]$. Given the function:

$$arphi\left(z
ight)=z^{\mu}(1-z)^{1-\mu},\;\;arphi\left(rac{1}{2}+i0
ight)=rac{1}{2}.$$

Find:

- 1) φ (2);
- 2) $\varphi(-1)$;
- 3) $\lim_{z\to\infty} \frac{\varphi(z)}{z}$.

Use i for complex unity, mu for μ and e^(#) for the exponential function. Present all the answers in the exponential form. Choose the arguments in such a way that for $\mu \in (0,1)$ the argument of the answer arg $\in (-\pi,\pi)$

1)

$$^{^{\prime }}$$
 $arphi\left(2\right) =% {\displaystyle\int\limits_{0}^{\infty }} \left\langle {arphi\left(2\right) }
ight\rangle \left\langle$

$$arphi\left(-1
ight) =% {\displaystyle\int\limits_{-\infty}^{\infty}} \left[{\displaystyle\int\limits_{-$$

Present the answer in the exponential form

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You have used 0 of 6 attempts