Problem 1.9

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Homework due Oct 24, 2020 20:00 EDT

Problem 1.9

0.0/4.0 points (graded)

Consider a function of a natural number n defined by the following integral.

$$p(n) = \frac{1}{2\pi i}\int_{\mathcal{C}} dz z^{-1-n}\prod_{k=1}^{\infty}\frac{1}{1-z^k},$$

where $\mathcal{C}$ is a circle of a radius smaller than unity and show that $p(n)$ is natural number.

Evaluate p(1)

Evaluate p(4)

Submit You have used 0 of 6 attempts

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I got the answer by using residue theorem. However, I guess there might be other methods, since we are only at week 1! I tried to do th...