

Solutions to Homework Assignment 16

MATH 345-01

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3. Let $z_1 = -i - 1$ and let $z_2 = i$. Then $\text{Log } z_1 = \ln \sqrt{2} - 3\pi i/4$ and $\text{Log } z_2 = i\pi/2$. Thus $\text{Log } z_1 - \text{Log } z_2 = \ln \sqrt{2} - 5\pi i/4$, while $\text{Log } \frac{z_1}{z_2} = \text{Log } \frac{-i-1}{i} = \text{Log } (-1+i) = \ln \sqrt{2} + 3\pi i/4$.