

Math 4213 - Complex Analysis

Quiz #3 - 2012.01.20

Solutions

1. Given a complex function $f(z)$, we know it can be expressed as $f(z) = u(x,y) + i v(x,y)$. What can you say about $u(x,y)$ and $v(x,y)$?

The functions u and v are real valued functions.

2. Evaluate $\left| (2 - 3i) \overline{(4 + i)} \right|$.

$$\begin{aligned} \left| (2 - 3i) \overline{(4 + i)} \right| &= |(2 - 3i)| \left| \overline{(4 + i)} \right| \\ &= |(2 - 3i)| |4 + i| \\ &= \sqrt{2^2 + 3^2} \sqrt{4^2 + 1^2} \\ &= \sqrt{13} \sqrt{17} \\ &= \sqrt{221} \end{aligned}$$