
Homework 6
Due: Friday, September 29

1. (a) [BC] 22.1.
(b) Take one of the functions in 22.1b, c or d and show directly that it is not differentiable.
2. [BC]22.6. (HINT: *Remember, you are only asked to verify the Cauchy-Riemann equations when $(x, y) = (0, 0)$.*)
3. Verify that each function is harmonic, and find a harmonic conjugate for it.
 - (a) $u(x, y) = xy - x + y$.
 - (b) $u(x, y) = e^x \sin(y)$.
4. [BC]25.2.
5. [BC]25.9 (HINT: *Read and understand problems 25.7 and 25.8, first.*)