Homework 6
Due: Friday, September 28

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.*)

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