M555 - Introduction to Complex Variables - Fall 2009

Assignment # 2. Due: Thursday, January 22, 2009.

From the Textbook:

- p.35 Problems 1c, 1d, 2.
- p.42 Problem 7.
- p.53 Problem 5.
- p.60 Problem 8a.
- p.68 Problems 1a, 7.
- p.74 Problems 2b, 6.
- p.79 Problems 5, 7, 8.

Additional Problems:

- A Show that if both f(z) and $\overline{f(z)}$ are analytic, then f(z) must be constant.
- B Suppose that f = u + iv is analytic.
 - i Is the function f = v + iu also analytic? Verify your answer on $f(z) = z^2$ where $u(x, y) = x^2 - y^2$ and v(x, y) = 2xy.
 - ii Is the function f = v iu analytic?
 - iii If you know that both f = u + iv and f = v + iu are analytic, what can you conclude about u and v?