

For the upcoming test you will be asked questions based on the theory and homework covered after Test 1 (2.5, 3.1, 3.2, 3.3, 3.5, 4.1, 4.2, 4.3 of the text). As with the first test I may take some questions directly from the homework or ask modified version of homework questions.

Cheat Sheet

A single double-sided letter-size "cheat sheet" containing formulae, theory and numerical values may be used for the test. The cheat sheet may not contain worked examples however, and must be submitted when you hand in your test.

Definitions and Concepts

Key concepts you should know:

1. what a harmonic function is, how to find a harmonic conjugate, and how harmonic functions are related to analytic functions.
2. the basic definitions and properties of polynomial, exponential, trigonometric and hyperbolic functions.
3. the definition and properties of the multiple valued $\log(z)$ function and how to evaluate various branches of the function.
4. the definition and properties of the multiple valued complex power function z^α .
5. how to compute contour integrals directly as in 4.2.
6. how to compute contour integrals using path independence and other equivalent properties (4.3, and in particular Theorem 7).