

Complex Analysis, MTH G204.
Fall 2004. Professor Mikhail Shubin.

Textbook:

Complex Analysis, by Theodore W. Gamelin. Springer-Verlag New York, Inc., 2001.
Corrected printing 2003

Office: 460 Lake Hall. **Phone:** (617)373-5676 **E-mail:** shubin@neu.edu

Homework assignment no. 1

(due September 16)

- 1*. Give a maximally self-contained proof of the Euler formula $e^{i\pi} = -1$.
2. Section I.1, page 4-5: 1(a,b,d,f).
3. Section I.2, page 9-11: 1(a,b,e,h), 2(b), 5.
4. Section I.3, page 13-15: 2, 4.
5. Section I.4, page 18-19: 1(a,c,f), 3.
6. Section I.5, page 21: 1(e), 2(a), 4.
7. Section I.6, page 24: 2(a,b), 4.
8. Section I.7, page 27-28: 1(a), 4, 6.
9. Section I.8, page 31-32: 1, 2, 4.

Do not be afraid of the long list. Most of the problems are easy exercises, which should take seconds to solve. They are designed for the undergraduate students, but doing them makes you learn the topic. It is like talking to a person whom you just met, there is no other way to learn more about this person.

A general remark. Problems marked with * have an extended due date, which is not specified now. They are usually more difficult, but on the other hand, they are definitely worth thinking about. Please hand me any one of them when it is ready. Some of them may be topics for projects.