MATH 185-1: Complex Analysis

Homework #1

Due January 28, 2016

All problems are from Gamelin, *Complex Analysis*, unless stated otherwise. If you use an exercise that has not been shown on a previous assignment or in class, prove it first before applying it.

1. Show that multiplication of complex numbers satisfies the associative, commutative, and distributive laws.
2. Gamelin Exercise I.1.7 (Chapter I, Section 1, Exercise 7)
3. Gamelin Exercise I.2.5
4. Gamelin Exercise I.2.6 (You may want to read p. 8 on nth roots and roots of unity. You may also use the Fundamental Theorem of Algebra on p. 4 – we will prove this later in the semester.)
5. Gamelin Exercise I.3.2
6. Gamelin Exercise I.3.4
7. Gamelin Exercise I.5.3
8. Gamelin Exercise I.6.3
9. Gamelin Exercise I.6.4