
Complex Analysis

Math 214 Spring 2004
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Fowler 112 MWF 3:30pm - 4:25pm
<http://faculty.oxy.edu/ron/math/312/04/>

Class 1: Wednesday January 21

SUMMARY Properties of Complex Numbers

READING Saff & Snider, Section 1.1

HOMEWORK Saff & Snider, Section 1.1 # 1, 4, 5, 7, 11, 16, **Extra Credit: 21**

What do we know about complex numbers so far? Here is a list of properties and operations we know about to date. Make sure you understand how each one works.

Consider two complex numbers $z = x + \mathbf{i}y$ and $p = a + \mathbf{i}b$

- EQUALITY
- CONJUGATE
- MODULUS (absolute value)
- ADDITION
- MULTIPLICATION
- DIVISION

GROUPWORK

With your nearest neighbor compute the value of the expressions A and B so that they are complex numbers of the form $x + \mathbf{i}y$.

$$A = \frac{3 + 2\mathbf{i} + (-2 + \mathbf{i})}{3 - 4\mathbf{i}}, \quad B = \left(\frac{6}{5} + 2\mathbf{i} - \left(3 - \frac{3}{5}\mathbf{i}\right)\right)$$

Exercise

Then answer the following questions:

(a) Is $A = B$?

(b) Which is bigger, A or B ?

From this example write down one significant difference between the set of real numbers and the set of complex numbers: