Complex Analysis

Math 312 Spring 2016 Fowler 309 MWF 11:45am-12:40pm

 http://sites.oxy.edu/ron/math/312/16/

Class 1: **Wednesday January 20**

TITLE Properties of Complex Numbers
READING Zill & Shanahan, Section 1.1
HOMEWORK Zill & Shanahan, Section 1.1# 1, 4, 5, 7, 11, 27 **Extra Credit: 45**

SUMMARY
We will review how complex numbers are similar and different from real numbers.

EXAMPLE

Consider two complex numbers $z = x + \mathbf{i}y$ and $p = a + \mathbf{i}b$. Let's discuss how the following properties and operations apply.

1. EQUALITY

2. CONJUGATE

3. MODULUS (absolute value)

4. ADDITION

5. MULTIPLICATION

6. DIVISION

GroupWork

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

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

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:_____