Department of Mathematics
Christopher Newport University

Math 355-01 **Complex Variables** *Spring Term 2007*

Homework # 1

Due Friday Jan.19.07

1. Do problems 8, 9 on page 5 and problem 5 on page 7.

2. Solve the equation $z^2 + 2z + 2 = 0$ by writing

$$(x, y)(x, y) + 2(x, y) + (2, 0) = (0, 0)$$

and then solving a pair of simultaneous equations in x and y.

3. Reduce the quatity to a real number

$$\frac{4i}{(1+i)(2+i)(3+i)}$$

4. Locate the numbers $z_1 + z_2$ and $z_1 - z_2$ vectorially when

   (a) $z_1 = (-2, 1)$, $z_2 = (1, 1)$

   (b) $z_1 = 3i$, $z_2 = 3/2 - 2i$

5.Sketch the set of points determined by the given conditions.

$$|z - 2 + i| \leq 2$$