

## Quiz 2

## Complex Analysis

Name: \_\_\_\_\_

ASSIGNED: Friday January 29

DUE: Monday February 1

Time Begun: \_\_\_\_\_

Time Ended: \_\_\_\_\_

Prof. Ron Buckmire

**Topic :** Solution of a Complex Polynomial Equation

The **learning goal** of this quiz is to provide you with an opportunity to illustrate your facility with complex roots and arithmetic with complex numbers

**Reality Check:**

EXPECTED SCORE : \_\_\_\_\_/10

ACTUAL SCORE : \_\_\_\_\_/10

**Instructions:**

1. Once you open the quiz, you have **30 minutes** to complete, please record your start time and end time at the top of this sheet.
2. You may use the book or any of your class notes. You must work alone.
3. If you use your own paper, please staple it to the quiz before coming to class. If you don't have a stapler, buy one. QUIZZES WITH UNSTAPLED SHEETS WILL NOT BE GRADED.
4. After completing the quiz, sign the pledge below stating on your honor that you have adhered to these rules.
5. Your solutions must have enough details such that an impartial observer can read your work and determine HOW you came up with your solution.
6. Relax and enjoy...
7. **This quiz is due on Monday February 1**, in class. NO LATE OR UNSTAPLED QUIZZES WILL BE ACCEPTED.

**Pledge:** I, \_\_\_\_\_, pledge my honor as a human being and Occidental student, that I have followed all the rules above to the letter and in spirit.

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a. (3 points). **Confirm** that  $\sqrt{-15 - 8i} = \pm(1 - 4i)$ .

b. (4 points). **Find** all the solutions of  $z^2 + (2i - 3)z + 5 - i = 0$  and write them in rectangular form  $a + bi$ . (HINT: You will probably want to use the result from (a) at some point).

c. (3 points). **Show** that  $z_1 = 2 - 3i$  and  $z_2 = 1 + i$  each solve the quadratic equation in (b) and write each one in exponential form.