

**MTH 1210, FALL 2013**  
**DR. GRAHAM-SQUIRE**

SECTION 3.5/3.6: IN CLASS ACTIVITY

1. NAMES

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2. INSTRUCTIONS

Read the problem given below, then work on it with the other members of your group. You should give a complete answer with all of your work shown for each question. It is fine for different people to work on different parts of the question, but you should check each other's work since everyone in the group will receive the same grade for the assignment. If you have any questions, ask the other members of your group first. If all of you are stuck, everyone in the group must raise their hand in order to get help from the professor. Attach this as a cover sheet to the work you turn in.

**Exercise 1.** Consider the polynomial  $P(x) = x^5 + x^3 + 8x^2 + 8$ . Use factoring techniques and/or a graphing calculator to do the following:

- (a) Find all zeroes of the polynomial  $P(x)$ .
- (b) Completely factor the polynomial  $P(x)$ .
- (c) At least one of your zeroes will be a complex number with an imaginary part. Choose one of those zeroes and substitute it back into the unfactored form of  $P(x)$ , then simplify to confirm that you get zero.