

Last name _____

First name _____

LARSON—MATH 310—HOMEWORK WORKSHEET 01
Math Review Questions from our Text.

Read Chapter 1 of Klein's *Coding the Matrix* text and then answer the following questions.

1. What is a *field*?
2. Name three fields.
3. What is the *conjugate* of a complex number? What does it have to do with the absolute value of a complex number?
4. How does complex-number addition work? Explain and give an example.
5. How does complex-number multiplication work? Explain and give an example.
6. What does it mean to *scale* a complex number? How can scaling be defined in terms of complex numbers? Explain and give an example.
7. How can rotation by 180 degrees be defined in terms of complex numbers? Explain and give an example.
8. How can rotation by 90 degrees be defined in terms of complex numbers? Explain and give an example.