

Chapter 4 Semester Final Test Guide

Polynomials

- Be able to expand (multiply out) polynomial products.
 - Look for the patterns. Most common are sum/difference of cubes.
- Factoring: a typical question will be “solve for all roots/zeros, real and complex.”
 - Look for the patterns. The most common are difference of squares, and sum/difference of cubes.
 - If the polynomial is 4 terms, first thing I try is factor by grouping.
 - I will not give you a problem requiring you to use a calculator to find potential roots.
- Given one factor and the associated polynomial, be able to find the other factors.
 - Use synthetic division to find the 2nd factor (remember must get a remainder of zero).
 - Continue breaking down the 2nd factor until cannot anymore (until all factors are irreducible).
 - You may need to continue using synthetic division to break down the factors but keep your eye out for opportunities to use more simple, direct methods such as directly factoring , grouping or using the quadratic formula.
- Be able to write a polynomial of least degree given some of the factors.
 - Don't forget the conjugates!