**Steps to Factor a Polynomial**

**Prep** Arrange in descending order of powers and combine like terms.

**I** Factor Out the Greatest Common Factor (GCF),

Get a positive leading coefficient.

**II** If the Polynomial has 4 terms or more, factor by Grouping

**III** Factoring Trinomials (3 terms)

A. Trial and Error

1) Write down 2 pairs of parentheses

2) Determine your signs: + +, − − or + −

3) Factor the front term

4) Try different factors of the last term until the binomials FOIL to the trinomial.

B. Perfect Square Trinomial

**IV** Factoring Binomials (2 terms)

A. Difference of Two Squares

B. Sum of Two Squares - Does Not Factor

C. Difference of Two Cubes

D. Sum of Two Cubes

**V** Check for Complete Factorization:

**VI** The Polynomial Does Not Factor

Determine the signs of the factors: + +, − − or + −