

Factoring Polynomials

First, Look for a
GCF!

2 Terms

Sum/Difference
of 2 Cubes

$$a^3 + b^3 = (a+b)(a^2-ab+b^2)$$

Ex: $x^3 + 27$

$$a^3 - b^3 = (a-b)(a^2+ab+b^2)$$

Ex: $x^3 - 8$

2 Terms

Difference
of 2 Squares

$$a^2 - b^2 = (a+b)(a-b)$$

Ex: $x^2 - 16$

3 Terms
 $x^2 + bx + c$

Reverse FOIL
or Box Method

Examples
 $x^2 - x - 42$

$$2x^2 + 20x + 50$$

3 Terms
 $ax^2 + bx + c$

“Aussie” Method

Example
 $30x^2 - 27x + 6$

4 Terms

Grouping

Example
 $2a^3 - a^2b + 10a - 5b$