Unit 5: Polynomials and polynomials equations

Just the facts.

Factoring strategy:
1. Take common factor.
2. If the expression has:
    2.a <u>Two terms</u>: Try factoring as difference of two squares, or difference or sum of cubes.
    2.b <u>Three terms</u>: Is it trinomial square? MATH method.
    2.c <u>More than three terms</u>: Try grouping.
3. Keep factoring. Make sure that each remaining factor is prime.

Difference of Squares:

$$A^2 - B^2 = (A + B)(A - B)$$

Cubes (SOAP):

$$A^3 - B^3 = (A - B)(A^2 + AB + B^2)$$

$$A^3 + B^3 = (A + B)(A^2 - AB + B^2)$$

Other forms you should know:

$$(A + B)^2 = A^2 + 2AB + B^2$$

$$(A - B)^2 = A^2 - 2AB + B^2$$

If you insist:

$$(A + B)^3 = A^3 + 3A^2B + 3AB^2 + B^3$$
$$(A - B)^3 = A^3 - 3A^2B + 3AB^2 - B^3$$

=== End===