

# Factoring Polynomials

**Factoring** a polynomial is the process of writing it as the product of two or more polynomial factors.

**Example:**  $7x^2 + 35x + 42 = 7(x + 2)(x + 3)$ — *one monomial factor (7) and two binomial factors (x + 2) & (x + 3)*

Set the factors of a polynomial equation (as opposed to an expression) equal to zero in order to solve for a variable: **Example:** To solve  $7x^2 + 35x + 42 = 0 \rightarrow x + 2 = 0, x = -2$ ; and  $x + 3 = 0, x = -3$

The flowchart below illustrates a sequence of steps for factoring polynomials.

