

Strategy for Finding the Greatest Common Factor (GCF)

1. Factor each term completely.
2. Write a product using each factor that is common to all of the terms.
3. On each of these factors, use an exponent equal to the **smallest** exponent that appears on that factor in any of the terms.

Strategy for Factoring a Four-Term Polynomial by Grouping

1. Factor out the GCF from the first group of two terms.
2. Factor out the GCF from the last group of two terms.
3. Factor out the common binomial.

Factoring the Difference of Two Squares

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

Factoring Perfect Square Trinomials

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

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

Strategy for Identifying Perfect Square Trinomials

A trinomial is a perfect square trinomial if

1. the first and last terms are of the form a^2 and b^2 ,
2. the middle term is 2 or -2 times the product of a and b .