Section 7.5 Factoring Binomials

# Objective 1: Factoring the Difference of Two Squares

A binomial is a **difference of two squares** when it is the difference of the square of some quantity $a$ and the square of some quantity $b$.

**Difference of two squares:**

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

For example, the binomial $x^{2}-9$ is called a **difference of squares**. The expression $x^{2}-9$ can be written in factored form as follows:

$$x^{2}-9=(x+3)(x-3)$$

Factor the binomial completely.

|  |  |
| --- | --- |
| a. $b^{2}-25$  | b. $81x^{2}-16$ |
|  |  |
| c. $4x^{2}-49y^{2}$ | d. $50x^{2}-2$ |
| e. $64n^{2}-36$ | f. $64n^{2}+36$ |
| g. $y^{4}-81$ | h. $-t^{3}+t$ |