

Factoring Special Cases

Factoring Perfect-Square Trinomials

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

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

Examples:

$$x^2 + 8x + 16 = (x+4)^2$$

$$4n^2 - 12n + 9 = (2n-3)^2$$

Factoring Difference of Squares

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

Examples:

$$x^2 - 64 = (x+8)(x-8)$$

$$25y^2 - 36 = (5y+6)(5y-6)$$

Factor each polynomial.

① $x^2 - 14x + 49$

$$(x-7)(x-7)$$

$$(x-7)^2$$

② $12t^2 - 48$

$$12(t^2 - 4)$$

$$12(t+2)(t-2)$$