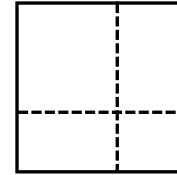


## 3.8 Factoring Special Polynomials

I. A Perfect Square Trinomial ... is of the form

$$(a + b)(a + b) \quad \text{or} \quad (a - b)(a - b)$$



\* *A trinomial is a perfect square if the middle term coefficient =*

ex.  $4a^2 + 12a + 9$

ex.  $4 - 20x + 25x^2$

ex.  $36y^2 + 12y + 1$

### II. 2-Variable Trinomials

If the trinomial is of the form  $ax^2 + bxy + cy^2$  factor it as though it is either a simple (3.5) or complex (3.6) trinomial but add the extra variable in the appropriate spot.

ex.  $2a^2 - 7ab + 3b^2$

ex.  $10c^2 - cd - 2d^2$

ex.  $16y^2 - 56xy + 49x^2$

III. A Difference of Squares ... is of the form

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

ex. a)  $25 - 36y^2$

b)  $9x^2 - 49$

c)  $121x^4y^2 - 64y^8$

d)  $5x^4 - 80y^4$

e)  $162a^4 - 2w^8$