

You should memorize all of these and recognize them in both directions.

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

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

$$a^3 - b^3 = (a - b)(a^2 + ab + b^2)$$

$$a^3 + b^3 = (a + b)(a^2 - ab + b^2)$$

$$(a + b)^3 = a^3 + 3a^2b + 3ab^2 + b^3$$