

7-4 Special Products of a Binomial

SQUARE OF A BINOMIAL

$$(a + b)^2$$

$$\begin{array}{l} (a+b)(a+b) \\ a^2 + ab + ab + b^2 \\ \hline a^2 + 2ab + b^2 \end{array}$$

EXAMPLES:

$$\begin{array}{l} \begin{array}{cc} a & b \\ 1. (x + 3)^2 \\ (x)^2 + 2(x)(3) + (3)^2 \\ \hline x^2 + 6x + 9 \end{array} \end{array}$$

$$\begin{array}{l} 2. (x - 4)^2 \\ \hline x^2 - 8x + 16 \end{array}$$

$$\begin{array}{l} 3. (3x + 5)^2 \\ \hline 9x^2 + 30x + 25 \end{array}$$

$$\begin{array}{l} 4. (2x - 1)^2 \\ \hline 4x^2 - 4x + 1 \end{array}$$

SUM & DIFFERENCE OF A BINOMIAL

$$(a + b)(a - b)$$

$$\begin{array}{l} a^2 - ab + ab - b^2 \\ \hline a^2 - b^2 \end{array}$$

EXAMPLES:

$$\begin{array}{l} \begin{array}{cc} a & b & a & b \\ 1. (x + 2)(x - 2) \\ (x)^2 - (2)^2 \\ \hline x^2 - 4 \end{array} \end{array}$$

$$\begin{array}{l} 2. (x + 5)(x - 5) \\ \hline x^2 - 25 \end{array}$$

$$\begin{array}{l} 3. (2x + 4)(2x - 4) \\ \hline 4x^2 - 16 \end{array}$$

$$\begin{array}{l} 4. (5x + 7)(5x - 7) \\ \hline 25x^2 - 49 \end{array}$$