

9-18-18

# Polynomials

## \* Adding Polynomials

(ex)  $(2x + 7) + (3x - 5)$

$$2x + 3x + 7 - 5$$

$$\boxed{5x + 2}$$

Combining like term.

- ① same variable
- ② same exponent

## \* Subtracting Polynomials

(ex)  $(2x + 7) - (3x - 5)$

$$\underline{2x} + \underline{7} - \underline{3x} + \underline{5}$$

$$\boxed{-x + 12}$$

## \* Multiplying Polynomials

(ex)  $2x(3x + 5) \rightarrow \boxed{6x^2 + 10x}$

(ex)  $(2x + 4)(5x - 2) \Rightarrow \underline{10x^2} - \underline{4x} + \underline{20x} - 8 \Rightarrow \boxed{10x^2 + 16x - 8}$

(ex)  $(2x + 5)(2x - 5) \Rightarrow \underline{4x^2} - \underline{10x} + \underline{10x} - 25 \Rightarrow \boxed{4x^2 - 25}$   
"conjugates"

(ex)  $(2x + 5)(2x + 5) \Rightarrow \underline{4x^2} + \underline{10x} + \underline{10x} + 25 \Rightarrow \boxed{4x^2 + 20x + 25}$   
"Perfect squares"

(ex)  $(3x - 7)^2 = 9x^2 + 1$  T or (F)

$$(3x - 7)(3x - 7) = 9x^2 + 1$$

$$9x^2 - 21x - 21x + 49 = 9x^2 + 1$$

$$9x^2 - 42x + 49 \neq 9x^2 + 1$$