

Example 1: Write each polynomial in standard form, identify the leading coefficient, and name it by degree/amount of terms.

a)  $4x + x^4 + 2$

$x^4 + 4x + 2$   
 LC: 1 quartic trinomial

c)  $x^4y^2$

LC: 1  
 Degree 6 monomial

and b)  $3 + 12x^2$   $12x^2 + 3$

LC: 12  
 quadratic binomial

d)  $x^3 + 2x^2 - x^2 + x$

$x^3 + x^2 + x$   
 LC: 1  
 Cubic trinomial

Summary: Polynomial is a sum of several  
 coefficient and variable terms.

Named by # of terms and degree  
 Standard form written w/ decreasing exponent

11.2 EQ:

**Combining Like Terms:** Only combine same variable and exponent!

*Example 1:* Simplify each expression. Write your answer in standard form.

a)  $(x^2 + 5x - 4) + (2x^2 - 11x + 9)$

$$\boxed{3x^2 - 6x + 5}$$

$$\begin{array}{r} x^2 + 5x - 4 \\ + 2x^2 - 11x + 9 \\ \hline 3x^2 - 6x + 5 \end{array}$$

b)  $(4x^5 - 3x^2 + 11) + (2x^2 - 5x + 9)$

$$4x^5 - x^2 + 20 - 5x$$

$$\boxed{4x^5 - x^2 - 5x + 20}$$

$$c) \underline{(x^2 + 5x - 4)} - \underline{(2x^2 - 11x + 9)}$$

$$\boxed{-x^2 + 16x - 13}$$

$$d) (4x^5 - 3x^2 + 11) - (2x^2 - 5x + 9)$$

$$0x^5 - 5x^2 + 5x + 2$$

Summary: