

Unit 3: Sections 3.3-3.6

## ★ FACTORING!

polynomial: can have one or more terms with variables with positive exponents.

examples:

$$\text{monomial} \Rightarrow 6xy^2$$

$$\text{binomial} \Rightarrow 2x^3 + 10y$$

$$\text{trinomial} \Rightarrow x^2 - 2x + 1$$

Simple Factoring: GCF (greatest common factor)

$$1) 4m^2 - 12$$

$$\text{GCF} = 4$$

$$4(m^2 - 3)$$

check by multiplying

$$4(m^2 - 3)$$

$$4m^2 - 12$$

$$2) 36x^2y + 6xy^2$$

$$\text{GCF: } 6xy$$

$$6xy(6x + y)$$

$$3) 15n^2m^3 - 10n^2m + 25n^4m^4$$

$$\text{GCF: } 5n^2m$$

$$5n^2m(3m^2 - 2 + 5n^2m^3)$$

$$4) -12x^3y - 20xy^2 - 16x^2y^2$$

\* when the polynomial starts with a negative, you have to factor out the negative.

$$\text{GCF: } -4xy$$

$$-4xy(3x^2 + 5y + 4xy)$$