

**FACTORING**

## Learning Targets for Factoring

1. Factor out a GCF
2. Factor difference of squares
3. Factor a quadratic expression of the form  $ax^2 + bx + c$
4. Factor an expression by grouping

Greatest Common Factor (GCF)

The first step in factoring is to factor out a GCF. We did this in P.1.

*Example 1:* Factor out the GCF from each expression.

a)  $3x^2 + 6x$

b)  $5x^4 - 7x^3 + 2x^2$

Factoring Quadratic Expressions of the Form  $ax^2 + bx + c$ 

Watch the PowerPoint Tutorial from <http://www.chaoticgolf.com/tutorials> on Factoring Quadratic Expressions

*Example 2:* Factor each expression completely.

a)  $3x^2 - 4x - 7$

b)  $2x^2 + 11x + 5$

c)  $6x^2 - 2x - 8$

d)  $6x^2 - 19x + 15$

Difference of Two Perfect Squares

*Example 3:* Factor each expression.

a)  $a^2 - b^2$

b)  $9x^2 - 25y^2$

c)  $3x^2 - 16$

d)  $36x^2 + 49$

*Example 4:* Completely factor each expression.

a)  $4x^4 + 24x^3 + 32x^2$

b)  $3(2a-3)^2 + 17(2a-3) + 10$