

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