1.3 Common Factoring

Factoring Polynomials – Converting a polynomial into a _____ of simpler terms.

Common Factoring – Involves dividing each term in a polynomial by:

- A constant (ex. _____)
- A variable (ex. _____)
- Both (ex. _____)

  Once done, the polynomial can be written as a product of the common factor and the new, simpler polynomial.

Note: Common factoring is the simplest of all factoring methods so always check for common factors first!

Examples (common factoring):

1. $3x^2 + 12x + 15$

2. $x^4 + 4x^3 + 6x^2 + 4x$

3. $25x^2y^4z^3 + 10x^3yz$

Factoring by Grouping: In polynomials with four terms, often they can be factored by grouping. The polynomial is divided into two pairs of terms and then common factored.

Examples (grouping):

   1. $x^2 + 3x + xy + 3y$

   2. $3x^5 - 12y^3 - x^2 + 4$

Note: The pairs of terms are not always side by side!

Example:

   3. $x^2 + y - xy - x$

Homework: Worksheet #1.3