NAME

Module 12 Simplifying Algebraic Expressions by Factoring Polynomials

Lesson 1 Factoring by Removing the Greatest Common Factor

guided notes

Lesson Objectives

- Identify the GCF of a polynomial.
- Factor polynomials by removing the GCF.

Factoring a polynomial is rewriting the polynomial as a

product of simpler expressions.

The Distributive Property states that

$a(b + c) =$ $ab + ac$.

It can also be written as $ab + ac =$ $a(b + c)$.

When factoring a polynomial, the first thing to be done is to factor out the greatest common monomial factor.

The greatest common monomial factor is the common factor that has the largest numerical factor and the highest degree in each variable.

1. Factor: $6x + 12$

   $6(x + 2)$

2. Factor: $5x^4 - 15x^2 - 10$

   $5(x^4 - 3x^2 - 2)$

3. Factor, if possible: $a^3 - b^2$

   No common monomial factor or no GCF

4. Factor: $8x^2y^2 - 12x^4y^3$

   $4x^2y^2(2 - 3x^2y)$