

Factoring the GCF

Algebra 1: Section 10.8

What's the GCF?

- A. The **Greatest Common Factor** (GCF) of a polynomial is the term _____ such that a is the greatest common factor of all of the _____ and x^n is smallest _____ of x in the polynomial.
- B. The GCF of $4x^5 - 2x^4 + 6x^2$ is _____ since 2 is the largest number that is a factor of 4, -2, and 6 and x^2 is the smallest power of x .

Factoring Out the GCF

- A. To factor out the GCF of a polynomial;
1. Identify the _____,
 2. Factor it out,
 3. Rewrite the _____ polynomial inside parenthesis.
- B. It may be possible to _____ the reduced polynomial even further using the technique we have already learned.

Factoring Out the GCF

- A. Factor $14x^4 - 21x^2$ completely.
1. The GCF is _____.
 2. Reduce: _____(_____).
- B. Factor $2x^2 - 8$ completely.
1. The GCF is _____.
 2. Reduce: _____(_____).
 3. Factor: _____(_____)(_____).

Factoring Out the GCF

- A. Factor $2x^2 + 8$ completely.
1. The GCF is _____.
 2. Reduce: _____(_____).
 3. Factor: _____(_____); _____ be factored further.
- B. Factor $4x^3 + 20x^2 + 24x$ completely.
1. The GCF is _____.
 2. Reduce: _____(_____).
 3. Factor: _____(_____)(_____).