

Algebra 12-2: Common Monomial Factoring**Warm-Up**

Fill in the blank.

1. $\underline{15}x^2 + \underline{20} = \underline{5}(\underline{3}x^2 + \underline{4})$

2. $18x^2 + 12x = \underline{6x}(3x + 2)$

$$6x \cdot 3x = 18x^2$$
$$6x \cdot 2 = 12x$$

Algebra 12-2: Common Monomial Factoring

Word	Definition	Example
Greatest Common Factor <i>GCF</i>	The largest common factor	$24x^2, 16x$ $GCF = 8x$
Prime Polynomials	Polynomials that cannot be factored	$6x^2 + 3x = 3x(2x+1)$

Ex) $5x+7$

$3x(2x+1)$
↑
prime polynomial

Examples

1. Find the GCF among the following: $16a^5m$ $-12a^3m^3$

$4a^2m^5$

1, 2, 4

$GCF = 4a^2m$

1, 2, 3, 6

2. Factor.

$18y^3 - 6y^2 - 15y$

$3y(6y^2 - 2y - 5)$

GCF

3. Simplify

$$\frac{-10z^2 + 5z}{5z} = \frac{\cancel{5z}(-2z+1)}{\cancel{5z}} = \boxed{-2z+1}$$

Assignment: 12-2 #'s 1-6a, 8-18, 20-23 abc, 28

1. $14x^4$: 1, 2, 7, 14, x, x, x, x

2. GCF = greatest common factor

3. $15x^3, 10x^2$

GCF = $5x^2$

1, 2, 3, 4, ~~6~~, 12, 24

4. $30ab^2, 24a^2$

GCF = $(6a)$