

19-11-18

To FACTOR out a monomial:

1. Find the GCF of all the terms

2. DIVIDE every term by the GCF

* divide #'s, subtract exponents w/ same base

3. Write final answer as: GCF

Examples:

1. $\frac{4x}{2} + \frac{6y}{2}$ GCF = 2

$$\boxed{2(2x+3y)}$$

↑
GCF

2. $\frac{5v^5}{5v^3} + \frac{10v^3}{5v^3}$ GCF = $5v^3$

$$\boxed{5v^3(v^2+2)}$$

$$\frac{v \cdot v \cdot v}{v \cdot v \cdot v}$$

3. $\frac{6x^3}{3x} - \frac{9x^2}{3x} + \frac{12x}{3x}$

GCF = $3x$

$$\boxed{3x(2x^2-3x+4)}$$

HW: AA.2 Factor out a monomial

GCF and Factoring

9-11-18

Warm-up: Simplify

$$\begin{array}{l} 5x(3x-4) \\ 15x^2 - 20x \end{array}$$

$$\begin{array}{l} -4y^2(y^2 - 6y + 7) \\ -4y^4 + 24y^3 - 28y^2 \end{array}$$

GCF: Greatest Common Factor

that divides evenly into a given

Ex: Factors of 16: 1, 2, 4, 8, 16

Factors of 4: 1, 2, 4

GCF: 4

GCF of variables: always the variable w/ the smallest exponent & same base.

Ex: $12x^3, 16x^2$

$12x^3$: 1, 2, 3, 4, 6, 12, x, x, x

$16x^2$: 1, 2, 4, 8, 16, x, x

GCF: $4x^2$

Examples: find the GCF

1. $45a^5, 50a^7$

GCF = $5a^5$

2. $3y, -8xy$

GCF = $1y$

3. $-4x^6, -x^4, -2x^2$

GCF = $-1x^2$