

Factoring GCF's

2nd

Name: _____

Period: _____ Date: _____

Factoring out a greatest common factor:

1. Determine what each term below has in common.

Ex 1. 3, 6, 9 3

Ex 2. 2x, 8x, -4x 2x

2. Factor the common value out by dividing each term by the common value.

Ex 3. $f(x) = \frac{4x}{4} + \frac{4}{4}$

$4(x+1)$

Ex 4. $f(x) = \frac{2x^2}{x} - \frac{3x}{x}$

$x(2x-3)$

Ex 5. $f(x) = \frac{2x}{2} + \frac{6y}{2} - \frac{12z}{2}$

$2(x+3y-6z)$

Ex 6. $f(x) = \frac{5x^3}{5x} + \frac{15x^2}{5x} - \frac{10x}{5x}$

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

3. You Practice:

1. $f(x) = \frac{8x^2}{x} + \frac{3x}{x}$

$x(8x+3)$

2. $f(x) = \frac{16x^3}{8x^2} - \frac{8x^2}{8x^2}$

$8x^2(2x-1)$

3. $f(x) = \frac{12x}{4} + \frac{4y}{4} - \frac{8z}{4}$

$4(3x+y-2z)$

4. $f(x) = 4x^3 + 18x^2 + 3x - 5$

cannot factor

Additional Practice: Factor the following by factoring out the GCF.

1. $\frac{2x}{2} + \frac{8}{2}$

$2(x+4)$

2. $\frac{4x}{4} + \frac{16}{4}$

$4(x+4)$

3. $\frac{6x}{6} - \frac{12}{6}$

$6(x-2)$

4. $\frac{3}{3} + \frac{15x}{3}$

$3(1+5x)$

5. $\frac{2x^2}{x} - \frac{7x}{x}$

$x(2x-7)$

6. $\frac{21x}{7x} + \frac{14x^2}{7x}$

$7x(3+2x)$

7. $\frac{4y}{4} + \frac{4x}{4}$

$4(y+x)$

8. $\frac{8x^3}{x} - \frac{3x}{x}$

$x(8x^2-3)$

9. $\frac{3x}{3} + \frac{9y}{3} - \frac{18z}{3}$

$3(x+3y-6z)$

10. $\frac{x^4}{x} + \frac{3x^3}{x} - \frac{12x}{x}$

$x(x^3+3x^2-12)$