

Name: \_\_\_\_\_ Date: \_\_\_\_\_

## Factoring Polynomials Using GCF

◎ **Factoring:** Writing the polynomial as a product.

### Steps:

1. Find the GCF of all its terms.
2. Write the polynomial as a product by factoring out the GCF from all the terms.  
- This is done by dividing the original terms of the polynomial by the GCF.
3. The remaining factors in each term will form a polynomial.
4. Set each factor equal to zero to solve.

### Examples:

◎  $\underline{4}x^2 + \underline{6}x$

$$2x(2x+3)$$

$$x^2: \begin{array}{c} \text{X} \\ \text{X} \end{array}$$

$$x: \begin{array}{c} \text{X} \\ \text{X} \end{array}$$

◎  $6x^3 - 9x^2$

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

$$x^3: \begin{array}{c} \text{X} \\ \text{X} \\ \text{X} \end{array}$$

$$x^2: \begin{array}{c} \text{X} \\ \text{X} \end{array}$$

### Practice Problems:

1.  $\underline{16}x^2 - \underline{8}x$

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

2.  $\underline{2}a^2 - \underline{6}a$

$$2a(a-3)$$

3.  $\underline{2}k^2 + \underline{2}k$

$$2k(k+1)$$

4.  $\underline{6}v + \underline{9}v^2$

$$3v(2+3v)$$