Name: _____ Date: _____

GCF Factoring

Introduction to Factoring out GCF

★"Factor" simply means to **UN**DISTRIBUTE.★

Distributed Version	Factored Version
	5x(x + 3)
	2x²(x – 4)
2x² – 4x	
15x² – 5x + 30	

More formal Definition:
◎ ***Factoring:*** *Writing the polynomial as a product*.

Steps to Factoring Out a GCF:

★ Find the GCF of all its terms (number and/or variables). For variables ALL the terms must have the variable. *Choose the <u>smallest</u> exponent!*

★ The GCF goes to the LEFT!

★ Write the polynomial as a product by <u>*dividing*</u> the original terms of the polynomial by the GCF.

★ The remaining factors in each term will form a polynomial. You'll always have the same number of terms you started with.

Factor using a GCF:

◎ $4x + 6y$

◎ $6x^3 - 9x^2 + 12x$

◎ $y^8 - y^5 + y^2$

PRACTICE: Factor each polynomial using a GCF.

1. $10x + 45$

2. $28x - 63$

3. $18a + 42$

4. $8x + 24$

5. $18x^2 - 15x + 39$

6. $27a^2 + 81$

7. $72a^8 + 33a^5 - 42a^3$

8. $15x^7 + 30x^6 - 45x^3$

9. $4x^3 + 16x^2 - 44$

10. $14x^2 + 7x - 42$