

## Notes: Greatest Common Factor (GCF)

The \_\_\_\_\_ (\_\_\_\_\_) is the largest factor that a set of numbers/terms share. This can include \_\_\_\_\_.

A variable must be present in \_\_\_\_\_ to be included in the \_\_\_\_\_.

<b>Find the Greatest Common Factor (GCF)</b>			
3 and 24	8 and 12	15 and 50	11 and 53
$2x^2$ and $4x$	$63a^2$ and $7a^3$	$12a^2b$ and $30ab^2$	$6x^3y^5$ and $21xy^3$
$12x^2$ and $6x$ and 24	$10n^3$ and $20n^2$ and $45n$	$4xy^2$ and $8x^2y^3$ and $4x^4y^3$	

Factoring a Polynomial is the \_\_\_\_\_ of Simplifying an Expression.

<b>Simplify each Expression - Review</b>			
$5(n + 4)$	$a(2a - 5)$	$3xy^5(x^2 - 4y)$	$-2m(m^2 + 6m - 1)$

Simplifying an Expression \_\_\_\_\_ parenthesis.

Factoring a Polynomial \_\_\_\_\_ parenthesis.

To Factor a Polynomial means to write it as a product of two (or more) polynomials.

This can also be referred to as “\_\_\_\_\_”.

<b>Factor each Polynomial “Un-Distribute” the GCF</b>		
$5x - 15$	$4y + 2$	$6x + 9$

If the GCF is \_\_\_\_\_ then the Polynomial is considered \_\_\_\_\_ and cannot be Factored.

**Factor each Polynomial** “Un-Distribute” the GCF

$10x - 10y$	$9x^2 - 21$	$30a + 18b^2$
$3m^2 - 2m$	$5xy^2 - 4xy$	$y^4 - 2x$
$20x^2 - 24x$	$4m^3 + 24m$	$12a^3 + 10a^2$
$6a^3b - 9a^2b^2$	$14m^8n^5 - 7m^2n^2$	$40x^4y^{10} + 48xy^4$
$2x^2 + 4x + 6$	$x^3 + x^2 - x$	$6x^4 - 12x^3 + 9x^2$
$-4x^4 + 12x^2 - 16$	$-3d^5 + 21d^4 - 24d^3$	$-x^2y - 18xy + 9xy^2$

If the First Term of the expression is negative, the GCF is ALSO \_\_\_\_\_.

**Extra Practice****Name:** \_\_\_\_\_**Greatest Common Factor (GCF)**

<b>Factor each Polynomial</b> “Un-Distribute” the GCF		
1. $5x - 35$	2. $21m + 7$	3. $30x - 12$
4. $-6x + 15$	5. $32v^2 - 36$	6. $7x^2 + 5$
7. $x^2 - 3x$	8. $8y^2 + 5y$	9. $4a^2 - 16a$
10. $24n^2 + 8n$	11. $7n^3 + 9n^2$	12. $40a^4 - 35a^3$
13. $-27x^5 - 18x^2$	14. $3m^2 - 4n$	15. $ab^3 - 3ab^2$
16. $24x^2y + 9xy^2$	17. $21x^2y^4 - 14xy^2$	18. $6x^4y^5 - 18x^2y^7$
19. $-8a^2 + 2ab - 6b^2$	20. $8x^3 + 12x^2 - 4x$	21. $16m^3 - 8m^2 + 12m$
22. $6x^2y^5 + 2y^2 - 9$	23. $15x^6y^2 - 20x^4y^3 - 5x^4y^2$	24. $18x^3y - 12x^2y^2 + 60xy^3$