Name:_____ Date:_____Period:_____

NOTES: FACTOR OUT A GCF

Distributive Property Recap

1. $2x(3x + 2)$

2. $3x^2y(4xy - 1)$

3. $5a(2a^2 - 4a + 10)$

What are Factors?

Numbers or "parts" (polynomials in this case), that when _____ together, form a _____.

Prime Factors

Polynomials that _____ be factored further.

When Factoring out a GCF...

1) Coefficients, then variables –

2) Take a variable out only if

3) Distribute means to _____

GCF means to _____

Examples

Factor each polynomial by factoring out the Greatest Common Factor.

1. $2x + 8$	**2.** $5x - 5$
3. $4x^2 - 10x$	**4.** $-12x - 8x^2$
5. $5x + 9x^2$	**6.** $8x + 7y$
7. $8x^4 + 4x^3 - 2x^2$	**8.** $6x^2 + 3xy$
9. $15a^2b + 45ab$	**10.** $10y^3 + 40y^2 - 5y$
11. $m^2n - m$	**12.** $16x^2y^4 + 12x^2y^3$
13. $45a^2 - 9ab + 90ab^2$	**14.** $4a^4b^7c^3 + 16a^3b^4c^3 - 8a^2bc^2$

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A.__ FACTOR OUT A GCF

Factor each polynomial by factoring out the Greatest Common Factor.

1. $4x + 10$	**2.** $12x - 2$
3. $9x^2 - 81x$	**4.** $-10m - 15m^2$
5. $3n + 7n^2$	**6.** $5mn + 7ab$
7. $12x^4 + 6x^3 - 8x^2$	**8.** $14x^2y + 12xy^2$
9. $14a^2b^2 + 21ab^2$	**10.** $25y^4 + 30y^2 - 5y$
11. $x^2y - x$	**12.** $28x^3y^5 + 21x^2y^3$
13. $30m^2 - 10mn - 60mn^2$	**14.** $24a^5b^7c^2 + 16a^5b^4c^3 - 32a^4bc^3$

15. $-15b^2 - 5a^2$	**16.** $3x^4 + 9x^2 - 3$
17. $a^4b^2 - ab$	**18.** $55x^5y^4 + 11x^2y^3$
19. $72x^2 - 9xy - 8xy^2$	**20.** $49a^5b^7c^2 + 7a^5b^4c^3 - 21a^4b^2c$
21. $16m^2n - 16mn^2 - 64n^2$	**22.** $36b + 20b^2 + 4$
23. $100a^5b^7 + 25a^3b^4c^3 - 16a^2bc^2$	**24.** $121x^4y^4 + 44x^2y^2 - 132xy$