Name: _____

Factoring with GCF Notes

Method #1: Look for Greatest Common Factor First!

For **any** number of terms, check for:	Greatest Common Factor (GCF)- 1. Find the Greatest Common Factor between all term by breaking down numbers into their factors and finding largest number and variable that they have in common this goes to the **outside** of one set of parenthesis, 2. divide **all** terms by that GCF and put these numbers **inside** the parenthesis, (this is the reverse of the distributive property) GCF ( ) 3. Check your answer by mentally distributing the GCF

1. $6x^3 + 3x^2 - 12x$

$3x(2x^2 + x - 4)$

2. $5x^2 - 10x + 35$

$5(x^2 - 2x + 7)$

3. $16x^3y^4z - 8x^2y^2z^3 + 12xy^3z^2$

$4xy^2z(4x^2y^2 - 2xz^2 + 3yz)$

4. $14c^2d^2 + 42cd^3$

$14cd^2(c + 3d)$

5. $-35a^3b^4 - 60a^4b$

$-5a^3b(7b^3 + 12a)$

*want leading coefficient to be positive

6. $-8s^3t - 4st^3 - 7$

$-1(8s^3t + 4st^3 + 7)$

7. $19x^3 - 38x^2$

$19x^2(x - 2)$

8. $-4p^3 + 12p^2 - 24$

$-4(p^3 - 3p^2 + 6)$