**Algebra 1 Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Intro to Factoring – GCF**  **Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**WARM UP: Use the Distributive Property to simplify.**

1. 5(2x – 4) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2. -7x3y(2x – 4y) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**CHALLENGE: Work backwards to fill in each blank with a monomial that will make each equation true.**

3. 10x – 20 = \_\_\_\_\_\_\_ (2x – 4) 4. 10x2 – 15x = \_\_\_\_\_\_\_\_ (2x – 3)

5. 10x4y – 20x3y2 = \_\_\_\_\_\_\_\_ (2x – 4y) 6. 8x2 – 4x + 12 = \_\_\_\_\_\_\_\_ (2x2 – x + 3)

**Greatest Common Factor (GCF)**

1. 3 9 12 \_\_\_\_\_\_\_\_\_\_ 2. 8 12 20 \_\_\_\_\_\_\_\_\_\_ 3. –9 15 –24 \_\_\_\_\_\_\_\_\_

4. 28 49 \_\_\_\_\_\_\_\_\_\_ 5. x x2 \_\_\_\_\_\_\_\_\_\_ 6. x3 x2 x7 \_\_\_\_\_\_\_\_\_\_

7. 6x2 8x 14x3 \_\_\_\_\_\_\_\_\_\_

**Factoring Polynomials**

The GCF for a polynomial is the largest monomial that divides (is a factor of) into each term of the polynomial.

Ex: What is the GCF? **4x2** – **16x** Answer:

**Factor the following polynomials by removing the GCF.**

1. 15x + 9xy \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2. 12a2b – 3a2b3 + 18a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. -8xy3 + 20x2y2z – 4x \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 4. 32m4n + 24mn2 – 16mn \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Factor each. If it will not factor (does not have a GCF), write CANNOT BE FACTORED.**

1. 3x – 5x2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2. 4ab + 5ba2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. 8z2 + 21r2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 4. 4m2 + 6m – 1 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

What do these terms have in common? **x(x – 4) + 5(x – 4)** \_\_\_\_\_\_\_\_\_ Factor out the GCF

1. 2x(x + 6) + 7(x +6) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 2. 4a(ab – 2) – b(ab – 2) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. 3y(y + 6) – 2z(y + 6) +4(y + 6) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \*4. x(z – 4) +9(4 – z) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_