**Math 9 – Unit 5: Algebra II**  Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Lesson #1: Factoring Expressions with Common Factors**  Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Learning Goal:** We are learning to Factor expressions that contain common factors.

**Simplify each expression**.

1) $\left(5r-1-4r^{4}\right)+(1-7r^{3}+2r^{4})$ 2) $2n^{2}(6n-8)$

3) $\frac{6x^{3}y+3x^{2}y^{3}}{3x^{2}y}$ 4) $5\left(2y^{2}+3y-8\right)-2y(3y-4)$

**Notes on Common Factoring:** Factoring is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of expanding. Hence, when expanding, that work eliminates brackets. Factoring brings brackets back into the equation. Also, expanding uses multiplication, therefore factoring uses \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Factor the common factor out of each expression.**

5) $8n^{2}-6$ 6) $20m^{5}+15$

7) $2p^{5}+5p^{4}$ 8) $3x^{6}+x^{4}$

9) $-8uv^{5}-3u^{2}v-2uv$ 10) $8x^{4}y^{2}-18x^{3}y+18x^{2}y$

11) $5x\left(x-3\right)+8(x-3)$ 12) $3xy\left(y+2\right)-17w^{2}(y+2)$

**Success Criteria:**

* I can identify common factors
* I can factor expressions by dividing each term by the common factor
* I can write a factored expression as a monomial × a polynomial