

Algebra 0507

Chapter

Intro to WS # 16

Name _____

Product of a Sum and Difference

$$(a+b)(a-b) = a^2 - b^2$$

Simplify.

1. $(c+8)(c-8)$

$$c^2 - 64$$

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

$$4x^2 - 9$$

3. $(4u+1)(4u-1)$

$$16u^2 - 1$$

4. $(7n-9)(7n+9)$

$$49n^2 - 81$$

5. $(3d+8x)(3d-8x)$

$$9d^2 - 64x^2$$

6. $(2x^3+3y^4)(2x^3-3y^4)$

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

$$4x^6 - 9y^8$$

7. $\left(\frac{4}{5}y+m\right)\left(\frac{4}{5}y-m\right)$ $\left(\frac{4}{5}y\right)^2 - m^2$ $\frac{16}{25}y^2 - m^2$	8. $\left(\frac{1}{3}x-\frac{2}{3}y\right)\left(\frac{1}{3}x+\frac{2}{3}y\right)$ $\left(\frac{1}{3}x\right)^2 - \left(\frac{2}{3}y\right)^2$ $\frac{1}{9}x^2 - \frac{4}{9}y^2$
9. $(6x^4-5y^3)(6x^4+5y^3)$ $(6x^4)^2 - (5y^3)^2$ $36x^8 - 25y^6$	10. $(2y^3-7x^5)(2y^3+7x^5)$ $(2y^3)^2 - (7x^5)^2$ $4y^6 - 49x^{10}$
11. $\overbrace{(x+1)(x-1)}^{a+b \quad a-b}(x+2)$ FOIL $\rightarrow (x^2-1)(x+2)$ $x^3 + 2x^2 - x - 2$	12. $\overbrace{(2x+1)(2x-1)}^{FOIL}(2x+1)$ $(4x^2-1)(2x+1)$ $8x^3 + 4x^2 - 2x - 1$