Principles of Algebra Name/Date Clee / Today

ALL PROBLEMS CAN BE COMPLETED ON THIS WORKSHEET

WS 12D.1 - Factoring by Difference of Two Squares & (easy) Reverse FOIL

#1-16, If a polynomial is a binomial, factor by Difference of Two Squares. If a polynomial is a trinomial, factor by Reverse FOIL.

1. $x^2 + 8x + 16$ — trinomial - Reverse FOIL
   $= (x+4)(x+4)$ or $(x+4)^2$

2. $n^2 + 4n + 4$ — trinomial - Reverse FOIL
   $= (n+2)(n+2)$ or $(n+2)^2$

3. $w^2 - 18w + 81$ — trinomial - Reverse FOIL
   $= (w-9)(w-9)$ or $(w-9)^2$

4. $a^2 - 4$ — binomial - Difference of Two Squares
   $a \cdot a \quad 2 \cdot 2$
   $= (a+2)(a-2)$

5. $36r^2 + 12r + 1$ — trinomial - Reverse FOIL
   $= (6r+1)(6r+1)$ or $(6r+1)^2$

6. $4x^2 - 1$ — binomial - Difference of Two Squares
   $2x \cdot 2x \quad 1 \cdot 1$
   $= (2x+1)(2x-1)$

7. $81 - 16q^2$ — binomial - Difference of Two Squares
   $9 \cdot 9 \quad 4q \cdot 4q$
   $= (9+4q)(9-4q)$

8. $25k^2 - 9j^{10}$ — binomial - Difference of Two Squares
   $5k \cdot 5k \quad 3j^5 \cdot 3j^5$
   $= (5k+3j^5)(5k-3j^5)$

9. $m^2 - 100$ — binomial - Difference of Two Squares
   $m \cdot m \quad 10 \cdot 10$
   $= (m+10)(m-10)$

10. $4p^2 - 20p + 25$ — trinomial - Reverse FOIL
    $= (2p-5)(2p-5)$ or $(2p-5)^2$

11. $36n^4 - 49v^6$ — binomial - Difference of Two Squares
    $6n^2 \cdot 6n^2 \quad 7v^3 \cdot 7v^3$
    $= (6n^2+7v^3)(6n^2-7v^3)$

12. $9z^2 - 12z + 4$ — trinomial - Reverse FOIL
    $= (3z-2)(3z-2)$ or $(3z-2)^2$

13. $4x^2 + 4xy + y^2$ — trinomial - Reverse FOIL
    $= (2x+y)(2x+y)$ or $(2x+y)^2$

14. $49m^2 - 42mn + 9n^2$ — trinomial - Reverse FOIL
    $= (7m-3n)(7m-3n)$ or $(7m-3n)^2$

15. $121j^8 - 64k^2$ — binomial - Difference of Two Squares
    $11j^4 \cdot 11j^4 \quad 8k \cdot 8k$
    $= (11j^4+8k)(11j^4-8k)$

16. $a^2b^2 + 2abc + c^2$ — trinomial - Reverse FOIL
    $= (ab+c)(ab+c)$ or $(ab+c)^2$