Principles of Algebra Name/Date Clee / Today

ALL PROBLEMS CAN BE COMPLETED ON THIS WORKSHEET

WS 13A.4 – Way Too Much Reverse FOIL

#1-20, Factor by Reverse FOIL. If a polynomial is not factorable, write "prime." (Hint: there is only one problem that is prime)

Reverse FOIL
① Force FIRST
② Force SIGNS
③ Force LAST
④ Check OI

Reverse FOIL works on trinomials only.

1. $3n^2 + 5n - 9$
   prime

2. $a^2 + 12a + 11$
   $= (a+11)(a+1)$

3. $81t^2 + 72t + 15$
   $= (27t + 15)(3t + 1)$

4. $12c^2 - 7c - 10$
   $= (4x - 5)(3x + 2)$

5. $z^2 - 20z + 51$
   $= (z - 17)(z - 3)$

6. $2x^2 + 9x - 11$
   $= (2x + 11)(x - 1)$

7. $10k^2 + 3k - 4$
   $= (5k + 4)(2k - 1)$

8. $19y + 48 + y^2 = y^2 + 19y + 48$
   $= (y + 16)(y + 3)$

9. $x^2 - 6xy - 40y^2$
   $= (x + 4y)(x - 10y)$

10. $w^2 - 8wz - 48z^2$
    $= (w - 12z)(w + 4z)$

11. $x^2 - 8xy + 7y^2$
    $= (x - 7y)(x - y)$

12. $14r^2 - 45rt - 14t^2$
    $= (7r + 2t)(2r - 7t)$

13. $n^2 - 2np - 48p^2$
    $= (n - 8p)(n + 6p)$

14. $s^2 + 11st + 18t^2$
    $= (s + 9t)(s + 2t)$

15. $a^2 + 3ab - 54b^2$
    $= (a + 9b)(a - 6b)$

16. $56k^2 - 15k + 1$
    $= (8k - 1)(7k - 1)$

17. $j^2 - 11jk - 80k^2$
    $= (j - 16k)(j + 5k)$

18. $20b^2 - 41b + 2$
    $= (20b - 1)(b - 2)$

19. $a^{2x} + 3a^x + 2$
    $= (a^x + 2)(a^x + 1)$

20. $y^{4m} - 13y^{2m} + 12$
    $= (y^{2m} - 12)(y^{2m} - 1)$