Algebra II - Chapter 4 Factoring Day 2 Name: Key

Factor completely

1. $34v^5 - 24v^3 + 14v$ $2v(17v^4 - 12v^2 + 7)$

2. $x^2 + x - 56$ $(x+8)(x-7)$

3. $x^2 - 17x + 60$ $(x-5)(x-12)$

4. $8x^3y^2 - 36x^2y^3$ $4x^2y^2(2x - 9y)$

Factor by grouping

5. $2x^2 - 8x + 3x - 12$

$2x(x-4) + 3(x-4)$

$(x-4)(2x+3)$

6. $x^2 + 3x + 5x + 15$

$x(x+3) + 5(x+3)$

$(x+3)(x+5)$

7. $10x^2 - 16x + 25x - 40$

$2x(5x-8) + 5(5x-8)$

$(5x-8)(2x+5)$

8. $b^2 - 2b + 4b - 8$

$b(b-2) + 4(b-2)$

$(b-2)(b+4)$

9. $-k^2 + 5k + 3k - 15$

$-(k^2 - 5k - 3k + 15)$

$-(k(k-5) - 3(k-5))$

$-(k-5)(k-3)$

10. $6x^2 + 6x + x + 1$

$6x(x+1) + 1(x+1)$

$(x+1)(6x+1)$

11. $3x^2 - 4x + 6x - 8$

$x(3x-4) + 2(3x-4)$

$(3x-4)(x+2)$

12. $8r^3 - 64r^2 + r - 8$

$8r^2(r-8) + 1(r-8)$

$(r-8)(8r^2-1)$

13. $12p^3 - 21p^2 + 28p - 49$

$3p^2(4p-7) + 7(4p-7)$

$(4p-7)(3p^2+7)$

14. $12x^3 + 2x^2 - 30x - 5$

$2x^2(6x+1) - 5(6x+1)$

$(6x+1)(2x^2-5)$

15. $6v^3 - 16v^2 + 21v - 56$

$2v^2(3v-8) + 7(3v-8)$

$(3v-8)(2v^2+7)$

16. $63n^3 + 54n^2 - 105n - 90$

$9n^2(7n+6) - 15(7n+6)$

$(9n^2-15)(7n+6)$ or

$3(3n^2-5)(7n+6)$

17. $21k^3 - 84k^2 + 15k - 60$

$21k^2(k-4) + 15(k-4)$

$(k-4)(21k^2+15)$ or

$3(k-4)(7k^2+5)$

18. $3w^4 - 21w^2 - 5w^2 + 35$

$3w^2(w^2-7) - 5(w^2-7)$

$(w^2-7)(3w^2-5)$

19. $96n^3 - 84n^2 + 112n - 98$

$12n^2(8n-7) + 14(8n-7)$

$(8n-7)(12n^2+14)$ or

$2(8n-7)(6n^2+7)$

Name:_____

Factor completely

20. $2x^2 + 9x + 10$

$(2x+5)(x+2)$

21. $5x^2 + 31x + 6$

$(5x+1)(x+6)$

22. $5x^2 + 7x - 6$

$(5x-3)(x+2)$

23. $6x^2 + 37x + 6$

$(6x+1)(x+6)$

24. $3x^2 - 14x - 24$

$(3x+4)(x-6)$

25. $6x^2 + x - 2$

$(3x+2)(2x-1)$

26. $2x^2 + 11x + 5$

$(2x+1)(x+5)$

27. $12x^2 + 14x + 2$

$(12x+2)(x+1)$

$2(6x+1)(x+1)$

28. $4x^2 + 8x - 5$

$(2x+5)(2x-1)$

29. $4x^2 + 9x + 5$

$(4x+5)(x+1)$

30. $2x^2 - 11x + 14$

$(2x-7)(x-2)$

31. $5x^2 + 9x + 4$

$(5x+4)(x+1)$

32. $3x^2 + 7x + 2$

$(3x+1)(x+2)$

33. $15x^2 + 4x - 3$

$(3x-1)(5x+3)$

34. $16x^2 + 20x - 6$

$2(8x^2+10x-3)$

$2(4x-1)(2x+3)$