

Name _____ Date _____ Pd _____

7.8 Factoring by Grouping DAY ONE WS

1 – 8: Factor the polynomial by grouping. Show all work to earn full credit. Check by FOILing.

1. $b^3 - 4b^2 + b - 4$

2. $ac + ad + bc + bd$

3. $d^2 + 2c + cd + 2d$

4. $5t^3 + 6t^2 + 5t + 6$

5. $8s^3 + s - 64s^2 - 8$

6. $12a^3 + 2a^2 - 30a - 5$

7. $4x^3 - 12x^2 - 5x + 15$

8. $21h^3 + 18h^2 - 35h - 30$

9 – 16: Factor the polynomial completely. Show all work for full credit. Check by FOILing.

9. $4c^3 - 4c$

10. $100x^4 - 25x^2$

11. $2a^2 + 3a - 2$

$$12. 9x^2 + 3x - 14$$

$$13. 20p^2 + 22p - 12$$

$$14. 12x^2 - 20x - 48$$

$$15. 3s^3 + 2s^2 - 21s - 14$$

$$16. 2t^4 + t^3 - 10t - 5$$

17 – 22: Solve the equation. Show all work for full credit. Plug your answer into the original to check.

$$17. 3x^2 - 21x + 30 = 0$$

$$18. 5y^2 - 5y - 30 = 0$$

$$19. c^4 - 81c^2 = 0$$

$$20. 9d + 9 = d^3 + d^2$$

$$21. 48n - 3n^2 = 0$$

$$22. x^3 + 3x^2 = 16x + 48$$