

Algebra 2
Factor by Grouping

Name: _____
Period: _____

Factor completely.

1. $8r^3 - 64r^2 + r - 8$
2. $12p^3 - 21p^2 + 28p - 49$
3. $12x^3 + 2x^2 - 30x - 5$
4. $6v^3 - 16v^2 + 21v - 56$
5. $63n^3 + 54n^2 - 105n - 90$
6. $21k^3 - 84k^2 + 15k - 60$
7. $25v^3 + 5v^2 + 30v + 6$
8. $4v^3 - 12v^2 - 5v + 15$
9. $56xw + 49xk^2 - 24yw - 21yk^2$
10. $42mc + 36md - 7n^2c - 6n^2d$
11. $40ac^2 + 25ak^2 + 32bc^2 + 20bk^2$
12. $9x^2 - 16$
13. $4x^3 - 8x^2 - x + 2$
14. $2x^3 + 13x^2 + 15x$
15. $2x^3 + 2x^2 - x - 1$
16. $3x^3 + x^2 - 10x$
17. $9x^3 + 27x^2 - x - 3$
18. $5x^2 - 125$
19. $x^2 - xy - xz + yz$

Solve by factoring.

20. $3x^3 - 2x^2 - 12x + 8 = 0$
21. $x^3 - 2x^2 + x - 2 = 0$
22. $x^4 - x^2 + 2x^2 - 2 = 0$

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