

Factor by Grouping (ALG.FAC.02)

Factor each expression using grouping.

1. $a^2(a + 3) - 5(a + 3)$

2. $9y(y - 1) + 4(y - 1)$

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

4. $m^2(m + 3) - 5m(m + 3) + 3(m + 3)$

5. $2a^3 + 3a^2 - 6a - 9$

6. $49c^3 + 35c^2 + 28c + 20$

7. $96x^4 + 12x^3 - 64x^2 - 8x$

8. $24k^3 - 6k^2 + 20k - 5$

9. $-105n^3 - 42n^2 + 75n + 30$

10. $6m^3 - 2m^2 + 9m - 3$

11. $15n^3 - 20n^2 - 21n + 28$

12. $147x^3 + 21x^2 - 196x - 28$

13. $8r^3 + 4r^2 - 56r - 28$

14. $140v^5 + 160v^4 + 35v^3 + 40v^2$

15. $32a^3b - 24a^3 - 112b^3a^2 + 84b^2a^2$

16. $14mz + 49mc - 10nz - 35nc$

17. $35mn^2 + 210mn + 10n + 60$

18. $48uv + 42u - 192v - 168$

19. $35xy - 20x + 49y - 28$

20. $45a^2b + 63a^2m - 120amb - 168am^2$

21. $36bmc - 6bmd + 96bnc - 16bnd$

22. $168xy + 160y - 140x - 192y^2$

23. $x^5 - 2x^4 + 4x^3 + 5x^2 - 10x + 20$

24. $3a^3 + 6a^2b - 5a^2b - 10ab^2 + a + 2b$

25. $10jm - 4jn + 6jp + 5km - 2kn + 3kp$

26. $6x^2y^2 - 14x^2 + 15xy^2 - 35x - 6y^2 + 14$