

1. $20ab+16b^2-12bc = 4b(5a + 4b - 3c)$
2. $16u^2-36v^2 = 4(4u^2 - 9v^2) = 4(2u + 3v)(2u - 3v)$
3. $50x^4+80x^3y+32x^2y^2 = 2x^2(25x^2 + 40xy + 16y^2) = 2x^2(5x + 4y)(5x + 4y)$
4. $75ab^2+147a^3+210a^2b = 3a(49a^2 + 70b + 25b^2) = 3a(7a + 5b)(7a + 5b)$
5. $x^3-2x^2y+xy^2 = x(x^2 - 2xy + y^2) = x(x - y)(x - y)$
6. $80a^2-120ab+45b^2 = 5(16a^2 - 24ab + 9b^2) = 5(4a - 3b)(4a - 3b)$
7. $ab^2+2ab+a = a(b^2 + 2b + 1) = a(b + 1)(b + 1)$
8. $2x^2-4x+2 = 2(x^2 - 2x + 1) = 2(x - 1)(x - 1)$
9. $5b^3-5b = 5b(b^2 - 1) = 5b(b + 1)(b - 1)$
10. $4a^2-8a-32 = 4(a^2 - 2a - 8) = 4(a + 2)(a - 4)$
11. $3a^2+18a+24 = 3(a^2 + 6a + 8) = 3(a + 2)(a + 4)$
12. $10x+5x^2-120 = 5(x^2 + 2x - 24) = 5(x + 6)(x - 4)$
13. $63-3x^2+12x = -3(x^2 - 4x - 21) = -3(x + 3)(x - 7)$
14. $3x^2-3xy-18y^2 = 3(x^2 - xy - 6y^2) = 3(x + 2y)(x - 3y)$
15. $2x^2+8x-24 = 2(x^2 + 4x - 12) = 2(x + 6)(x - 2)$
16. $a^3-19a^2+90a = a(a^2 - 19a + 90) = a(a - 10)(a - 9)$
17. $625a^3-225ab^2 = 25a(25a^2 - 9b^2) = 25a(5a + 3b)(5a - 3b)$
18. $2x^4-12x^2-54 = 2(x^4 - 6x^2 - 27) = 2(x^2 + 3)(x^2 - 9) = 2(x^2 + 3)(x + 3)(x - 3)$
19. $4a^2-4 = 4(a^2 - 1) = 4(a + 1)(a - 1)$
20. $81x^4-16y^4 = (9x^2 + 4y^2)(9x^2 - 4y^2) = (9x^2 + 4y^2)(3x + 2y)(3x - 2y)$
21. $27x^2y^2-48y^4 = 3y^2(9x^2 - 16y^2) = 3y^2(3x + 4y)(3x - 4y)$
22. $64u^4-144u^2v^2 = 16u^2(4u^2 - 9v^2) = 16u^2(2u + 3v)(2u - 3v)$
23. $49a^4b^2-112a^3b^3+64a^2b^4 = a^2b^2(49a^2 - 112ab + 64b^2) = a^2b^2(7a - 8b)(7a - 8b)$
24. $16x^4-y^4 = (4x^2 + y^2)(4x^2 - y^2) = (4x^2 + y^2)(2x + y)(2x - y)$
25. $125r^2-20s^2 = 5(25r^2 - 4s^2) = 5(5r + 2s)(5r - 2s)$
26. $16x^4-1 = (4x^2 + 1)(4x^2 - 1) = (4x^2 + 1)(2x + 1)(2x - 1)$
27. $x^4-2x^2+1 = (x^2 - 1)(x^2 - 1) = (x + 1)(x - 1)(x + 1)(x - 1)$
28. $a^8-256 = (a^4 + 16)(a^4 - 16) = (a^4 + 16)(a^2 + 4)(a^2 - 4) =$
 $(a^4 + 16)(a^2 + 4)(a + 2)(a - 2)$