

1. $3x^2 + 4x - 7 = (3x + 7)(x - 1)$
2. $5x^2 + 19x - 4 = (5x - 1)(x + 4)$
3. $5x^2 - x - 4 = (5x + 4)(x - 1)$
4. $6x^2 + x - 2 = (3x + 2)(2x - 1)$
5. $3z^2 + z - 2 = (3z - 2)(z + 1)$
6. $8y^2 - y - 9 = (8y - 9)(y + 1)$
7. $10 + y - 2y^2 = -1(2y^2 + y - 10) = -1(2y + 5)(y - 2)$
8. $x^2 - xy - 56y^2 = (x - 8y)(x + 7y)$
9. $9a^2 + 3a - 2 = (3a - 1)(3a + 2)$
10. $6 - 23a - 4a^2 = -1(4a^2 + 23a - 6) = -1(4a - 1)(a + 6)$
11. $9r^2 - 25rs - 6s^2 = -1(6s^2 + 25rs - 9r^2) = -1(3s - 1r)(2s + 9r)$
12. $3a^2 + 2a - 5 = (3a + 5)(a - 1)$
13. $3a^2 - 5ab - 12b^2 = (3a + 4b)(a - 3b)$
14. $25a^2 + 10ab - 3b^2 = (5a - 1b)(5a + 3b)$
15. $20k^2 + 27k - 8 = (4k - 1)(5k + 8)$
16. $36d^2 - 5d - 24 = (4d + 3)(9d - 8)$
17. $15 - 31a - 24a^2 = -(24a^2 + 31a - 15) = -(8a - 3)(3a + 5)$
18. $2(y + 4)^2 - (y + 4) - 3 = [2(y + 4) - 3][(y + 4) + 1]$
19. $(x^2 - 1)^2 - 14(x^2 - 1) - 15 = [(x^2 - 1) - 15][(x^2 - 1) + 1]$
20. $10(a - b)^2 - 11(a - b) - 6 = [5(a - b) + 2][2(a - b) + 3]$

21. $15k^2 - 35km - 30m^2 = 5(3k^2 - 7km - 6m^2) = 5(3k + 2m)(k - 3m)$
22. $36u^2 - 78u - 30 = 6(6u^2 - 13u - 5) = 6(3u + 1)(2u - 5)$
23. $6u^2 - 7uv - 20v^2 = (3u + 4v)(2u - 5v)$
24. $54x^2 + 21xy - 20y^2 = (9x - 4y)(6x + 5y)$
25. $3x^2 - 10xy - 8y^2 = (3x + 2y)(x - 4y)$
26. $2a^2 - 5ab - 12b^2 = (2a + 3b)(a - 4b)$
27. $2m^2 - m - 10 = (2m - 5)(m + 2)$
28. $2x^2 + 7x - 15 = (2x - 3)(x + 5)$
29. $3x^2 - 10x - 8 = (3x + 2)(x - 4)$
30. $10t^2 - 13t - 77 = (5t + 11)(2t - 7)$
31. $20a^2 - 13a - 21 = (5a - 7)(4a + 3)$
32. $12a^2 - 8ab - 15b^2 = (6a + 5b)(2a - 3b)$
33. $56m^2 - 19mn - 15n^2 = (8m + 3n)(7m - 5n)$
34. $20x^4 - 37x^2 - 18 = (5x^2 + 2)(4x^2 - 9) = (5x^2 + 2)(2x + 3)(2x - 3)$
35. $6x^4 - 53x^2 - 9 = (6x^2 + 1)(x^2 - 9) = (6x^2 + 1)(x + 3)(x - 3)$
36. $20k^2 + 18kl - 35l^2 = (5k - 4l)(5k + 7l)$
37. $28x^2 + 3xy - 6y^2 = \textit{prime}$
38. $12x^4 + 17x^2 - 5 = (4x^2 - 1)(3x^2 + 5)$
39. $32x^4 - 2x^2y^2 - 9y^4 = (16x^2 - 9y^2)(2x^2 + y^2) = (4x + 3y)(4x - 3y)(2x^2 + y^2)$
40. $10x^2 - 29xy - 21y^2 = (5x + 3y)(2x - 7y)$