

Factor by Grouping (ALG.FAC.02)

Factor each expression using grouping.

- $a^2(a + 3) - 5(a + 3)$ $(a^2 - 5)(a + 3)$
- $9y(y - 1) + 4(y - 1)$ $(9y + 4)(y - 1)$
- $5x(5x - 2) + 2(5x - 2)$ $(5x + 2)(5x - 2)$
- $m^2(m + 3) - 5m(m + 3) + 3(m + 3)$ $(m^2 - 5m + 3)(m + 3)$
- $2a^3 + 3a^2 - 6a - 9$ $(2a + 3)(a^2 - 3)$
- $49c^3 + 35c^2 + 28c + 20$ $(7c + 5)(7c^2 + 4)$
- $96x^4 + 12x^3 - 64x^2 - 8x$ $4x(8x + 1)(3x^2 - 2)$
- $24k^3 - 6k^2 + 20k - 5$ $(4k - 1)(6k^2 + 5)$
- $-105n^3 - 42n^2 + 75n + 30$ $-3(5n + 2)(7n^2 - 5)$
- $6m^3 - 2m^2 + 9m - 3$ $(3m - 1)(2m^2 + 3)$
- $15n^3 - 20n^2 - 21n + 28$ $(3n - 4)(5n^2 - 7)$
- $147x^3 + 21x^2 - 196x - 28$ $7(7x + 1)(3x^2 - 4)$
- $8r^3 + 4r^2 - 56r - 28$ $4(2r + 1)(r^2 - 7)$
- $140v^5 + 160v^4 + 35v^3 + 40v^2$ $5v^2(7v + 8)(4v^2 + 1)$
- $32a^3b - 24a^3 - 112b^3a^2 + 84b^2a^2$ $4a^2(4b - 3)(2a - 7b^2)$
- $14mz + 49mc - 10nz - 35nc$ $(7c + 2z)(7m - 5n)$
- $35mn^2 + 210mn + 10n + 60$ $5(n + 6)(7mn + 2)$
- $48uv + 42u - 192v - 168$ $6(u - 4)(8v + 7)$
- $35xy - 20x + 49y - 28$ $(5x + 7)(7y - 4)$
- $45a^2b + 63a^2m - 120amb - 168am^2$ $3a(3a - 8m)(5b + 7m)$
- $36bmc - 6bmd + 96bnc - 16bnd$ $2b(6c - d)(3m + 8n)$
- $168xy + 160y - 140x - 192y^2$ $4(6y - 5)(7x - 8y)$
- $x^5 - 2x^4 + 4x^3 + 5x^2 - 10x + 20$ $(x^3 + 5)(x^2 - 2x + 4)$
- $3a^3 + 6a^2b - 5a^2b - 10ab^2 + a + 2b$ $(a + 2b)(3a^2 - 5ab + 1)$
- $10jm - 4jn + 6jp + 5km - 2kn + 3kp$ $(2j + k)(5m - 2n + 3p)$
- $6x^2y^2 - 14x^2 + 15xy^2 - 35x - 6y^2 + 14$ $(3y^2 - 7)(2x^2 + 5x - 2)$