SINGLE BRACKET: EXPAND

(1) $g(g - 14)$

(2) $p(11 - p)$

(3) $2x(x - 4)$

(4) $5x(x + 2)$

(5) $3n(n - 3)$

(6) $2g(g + 4)$

(7) $5n(n - 3)$

(8) $2d(2 + 3d)$

(9) $4n(2 + 3n)$

(10) $3f(1 + 5f)$

(11) $7a(a - 2)$

(12) $2w(1 - 6w)$

(13) $7c(1 + 3c)$

(14) $5u(u - 4)$

(15) $3x(2x - 3)$

(16) $2y(2 - 7y)$

DOUBLE BRACKETS

EXPAND:

(1) $(3x + 1)(x + 2)$

(2) $(4y - 3)(y + 5)$

(3) $(2w + 5)(w - 7)$

(4) $(5a - 1)(a - 3)$

(5) $(3u + 2)(2u - 1)$

(6) $(3p + 5)(p - 2)$

(7) $(7r - 2)(r + 1)$

(8) $(5h - 2)(h - 2)$

(9) $(2n - 7)(n + 1)$

(10) $(5v + 4)(v - 2)$

(11) $(3b + 7)(b - 3)$

(12) $(7x - 8)(x + 2)$

(13) $(5u - 9)(u + 3)$

(14) $(2p + 11)(p - 2)$

(i) $2(3x - 2)(x + 3)$

$\quad = 2(3x^2 + 7x - 6)$

$\quad = \quad 6x^2 + 14x - 30$

(ii) $-2(3x - 2)(x + 3)$

$\quad = -2(3x^2 + 7x - 6)$

$\quad = \quad -6x^2 - 14x + 12$

(iii) $- (3x - 2)(x + 3)$

$\quad = -1(3x^2 + 7x - 6)$

$\quad = \quad -3x^2 - 7x + 6$

EXPAND:

(1) 2 (3x + 1)(x + 4)   (2) 3 (2x - 1)(x - 6)

(3) 5 (2x - 3)(x + 2)   (4) 4 (3x - 1)(x - 1)

(5) 2 (5x + 1)(x - 2)   (6) 3 (4x + 3)(x - 3)

(7) 3 (2 + 3x)(4 - x)   (8) 2 (4 + x)(3 - 2x)

(9) -2 (3x + 1)(x + 2)   (10) -3 (2x - 3)(x - 1)

(11) - (5 - x)(3 + 2x)   (12) -5 (4 + 3x)(1 - 2x)

TRINOMIALS

(1) $(x + 2)(x^2 + 3x + 4)$

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

(3) $(x - 4)(3x^2 - 5x + 2)$

(4) $(2x + 3)(x^2 + 2x + 4)$

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

(6) $(2x - 3)(2x^2 + 4x - 3)$

(7) $(3x - 2)(4x^2 - 3x + 5)$

(8) $(x + 4)(x - 1)(x + 3)$

(9) $(x + 3)(x - 2)(x - 3)$

(10) $(x + 2)^3$

(11) $(2x + 3)(x - 2)(x + 5)$

(12) $(3x - 2)(x + 1)(x - 4)$

(13) $(2x + 3)(2x - 1)(2x - 3)$

(14) $(3x - 1)(2x - 5)(2x + 1)$

FULLY SIMPLIFY:

(1) $(x + 1)^2 - (x - 1)^2$

(2) $(x - 2)^2 - (x - 4)^2$

(3) $(3x + 1)^2 - (3x - 2)^2$

(4) $(2x + 3)^2 - (2x - 3)^2$

SINGLE BRACKET: EXPAND

(1) $g(g - 14)$
= $g^2 - 14g$

(2) $p(11 - p)$
= $11p - p^2$

(3) $2x(x - 4)$
= $2x^2 - 4x$

(4) $5x(x + 2)$
= $5x^2 + 10x$

(5) $3n(n - 3)$
= $3n^2 - 9n$

(6) $2g(g + 4)$
= $2g^2 + 8g$

(7) $5n(n - 3)$
= $5n^2 - 15n$

(8) $2d(2 + 3d)$
= $4d + 6d^2$

(9) $4n(2 + 3n)$
= $8n + 12n^2$

(10) $3f(1 + 5f)$
= $3f + 15f^2$

(11) $7a(a - 2)$
= $7a^2 - 14a$

(12) $2w(1 - 6w)$
= $2w - 12w^2$

(13) $7c(1 + 3c)$
= $7c + 21c^2$

(14) $5u(u - 4)$
= $5u^2 - 20u$

(15) $3x(2x - 3)$
= $6x^2 - 9x$

(16) $2y(2 - 7y)$
= $4y - 14y^2$

DOUBLE BRACKETS

EXPAND:

(1) $(3x + 1)(x + 2)$
$= \quad 3x^2 + 7x + 2$

(2) $(4y - 3)(y + 5)$
$= \quad 4y^2 + 17y - 15$

(3) $(2w + 5)(w - 7)$
$= \quad 2w^2 - 9w - 35$

(4) $(5a - 1)(a - 3)$
$= \quad 5a^2 - 16a + 3$

(5) $(3u + 2)(2u - 1)$
$= \quad 6u^2 + u - 2$

(6) $(3p + 5)(p - 2)$
$= \quad 3p^2 - p - 10$

(7) $(7r - 2)(r + 1)$
$= \quad 7r^2 + 5r - 2$

(8) $(5h - 2)(h - 2)$
$= \quad 5h^2 - 12h + 4$

(9) $(2n - 7)(n + 1)$
$= \quad 2n^2 - 5n - 7$

(10) $(5v + 4)(v - 2)$
$= \quad 5v^2 - 6v - 8$

(11) $(3b + 7)(b - 3)$
$= \quad 3b^2 - 2b - 21$

(12) $(7x - 8)(x + 2)$
$= \quad 7x^2 + 6x - 16$

(13) $(5u - 9)(u + 3)$
$= \quad 5u^2 + 6u - 27$

(14) $(2p + 11)(p - 2)$
$= \quad 2p^2 + 7p - 22$

EXPAND:

(1) $2(3x + 1)(x + 4)$
$= 2(3x^2 + 13x + 4)$
$= 6x^2 + 26x + 8$

(2) $3(2x - 1)(x - 6)$
$= 3(2x^2 - 13x + 6)$
$= 6x^2 - 39x + 18$

(3) $5(2x - 3)(x + 2)$
$= 5(2x^2 + x - 6)$
$= 10x^2 + 5x - 30$

(4) $4(3x - 1)(x - 1)$
$= 4(3x^2 - 4x + 1)$
$= 12x^2 - 16x + 4$

(5) $2(5x + 1)(x - 2)$
$= 2(5x^2 - 9x - 2)$
$= 10x^2 - 18x - 4$

(6) $3(4x + 3)(x - 3)$
$= 3(4x^2 - 9x - 9)$
$= 12x^2 - 27x - 27$

(7) $3(2 + 3x)(4 - x)$
$= 3(8 + 10x - 3x^2)$
$= 24 + 30x - 9x^2$

(8) $2(4 + x)(3 - 2x)$
$= 2(12 - 5x - 2x^2)$
$= 24 - 10x - 4x^2$

(9) $-2(3x + 1)(x + 2)$
$= -2(3x^2 + 7x + 2)$
$= -6x^2 - 14x - 4$

(10) $-3(2x - 3)(x - 1)$
$= -3(2x^2 - 5x + 3)$
$= -6x^2 + 15x - 9$

(11) $-(5 - x)(3 + 2x)$
$= -1(15 + 7x - 2x^2)$
$= -15 - 7x + 2x^2$

(12) $-5(4 + 3x)(1 - 2x)$
$= -5(4 - 5x - 6x^2)$
$= -20 + 25x + 30x^2$

TRINOMIALS

(1) $(x + 2)(x^2 + 3x + 4)$ $x^3 + 5x^2 + 10x + 8$

(2) $(x + 3)(2x^2 + x - 5)$ $2x^3 + 7x^2 - 2x - 15$

(3) $(x - 4)(3x^2 - 5x + 2)$ $3x^3 - 17x^2 + 22x - 8$

(4) $(2x + 3)(x^2 + 2x + 4)$ $2x^3 + 7x^2 + 14x + 12$

(5) $(3x + 2)(x^2 - 2x - 5)$ $3x^3 - 4x^2 - 19x - 10$

(6) $(2x - 3)(2x^2 + 4x - 3)$ $4x^3 + 2x^2 - 18x + 9$

(7) $(3x - 2)(4x^2 - 3x + 5)$ $12x^3 - 17x^2 + 21x - 10$

(8) $(x + 4)(x - 1)(x + 3)$ $x^3 + 6x^2 + 5x - 12$

(9) $(x + 3)(x - 2)(x - 3)$ $x^3 - 2x^2 - 9x + 18$

(10) $(x + 2)^3$ $x^3 + 6x^2 + 12x + 8$

(11) $(2x + 3)(x - 2)(x + 5)$ $2x^3 + 9x^2 - 11x - 30$

(12) $(3x - 2)(x + 1)(x - 4)$ $3x^3 - 11x^2 - 6x + 8$

(13) $(2x + 3)(2x - 1)(2x - 3)$ $8x^3 - 4x^2 - 18x + 9$

(14) $(3x - 1)(2x - 5)(2x + 1)$ $12x^3 - 28x^2 - 7x + 5$

FULLY SIMPLIFY:

(1) $(x + 1)^2 - (x - 1)^2$ $4x$

(2) $(x - 2)^2 - (x - 4)^2$ $4x - 12$

(3) $(3x + 1)^2 - (3x - 2)^2$ $18x - 3$

(4) $(2x + 3)^2 - (2x - 3)^2$ $24x$