

すきプリ 中学数学

多項式【乗法公式】

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乗法公式を使って、多項式を展開しましょう。

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

$$(4b + 7)(4b - 7)$$

$$(5x + 3y)(5x + 7y)$$

$$(4m + 1)(4m + 7)$$

$$(8x + 2y)(8x - 2y)$$

$$(9n + 5)(9n - 3)$$

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

$$(9a + 6b)(9a - 6b)$$

$$(5a - 3b)^2$$

$$(4y + 2)(4y - 6)$$

$$\begin{aligned} & (4y + 2)(4y - 2) \\ &= (4y)^2 - 2^2 \\ &= 16y^2 - 4 \end{aligned}$$

$$\begin{aligned} & (4b + 7)(4b - 7) \\ &= (4b)^2 - 7^2 \\ &= 16b^2 - 49 \end{aligned}$$

$$\begin{aligned} & (5x + 3y)(5x + 7y) \\ &= (5x)^2 + (3y + 7y) \times 5x + 3y \times 7y \\ &= 25x^2 + 50xy + 21y^2 \end{aligned}$$

$$\begin{aligned} & (4m + 1)(4m + 7) \\ &= (4m)^2 + (1 + 7) \times 4m + 1 \times 7 \\ &= 16m^2 + 32m + 7 \end{aligned}$$

$$\begin{aligned} & (8x + 2y)(8x - 2y) \\ &= (8x)^2 - (2y)^2 \\ &= 64x^2 - 4y^2 \end{aligned}$$

$$\begin{aligned} & (9n + 5)(9n - 3) \\ &= (9n)^2 + (5 - 3) \times 9n + 5 \times (-3) \\ &= 81n^2 + 18n - 15 \end{aligned}$$

$$\begin{aligned} & (9x + 3y)(9x - 3y) \\ &= (9x)^2 - (3y)^2 \\ &= 81x^2 - 9y^2 \end{aligned}$$

$$\begin{aligned} & (9a + 6b)(9a - 6b) \\ &= (9a)^2 - (6b)^2 \\ &= 81a^2 - 36b^2 \end{aligned}$$

$$\begin{aligned} & (5a - 3b)^2 \\ &= (5a)^2 - 2 \times 5a \times 3b + (3b)^2 \\ &= 25a^2 - 30ab + 9b^2 \end{aligned}$$

$$\begin{aligned} & (4y + 2)(4y - 6) \\ &= (4y)^2 + (2 - 6) \times 4y + 2 \times (-6) \\ &= 16y^2 - 16y - 12 \end{aligned}$$

$$(7x + y)(7x - y)$$

$$(7a + 2b)^2$$

$$(2y - 8)^2$$

$$(5a + 4b)^2$$

$$(5y - 1)(5y + 1)$$

$$(4c + 7)^2$$

$$(5x + 8y)(5x - y)$$

$$(4b - 2)(4b + 2)$$

$$(5x + 8y)^2$$

$$(2m + 6)(2m - 6)$$

$$\begin{aligned} & (7x + y)(7x - y) \\ &= (7x)^2 - y^2 \\ &= 49x^2 - y^2 \end{aligned}$$

$$\begin{aligned} & (7a + 2b)^2 \\ &= (7a)^2 + 2 \times 7a \times 2b + (2b)^2 \\ &= 49a^2 + 28ab + 4b^2 \end{aligned}$$

$$\begin{aligned} & (2y - 8)^2 \\ &= (2y)^2 - 2 \times 8 \times 2y + 8^2 \\ &= 4y^2 - 32y + 64 \end{aligned}$$

$$\begin{aligned} & (5a + 4b)^2 \\ &= (5a)^2 + 2 \times 5a \times 4b + (4b)^2 \\ &= 25a^2 + 40ab + 16b^2 \end{aligned}$$

$$\begin{aligned} & (5y - 1)(5y + 1) \\ &= (5y)^2 - 1^2 \\ &= 25y^2 - 1 \end{aligned}$$

$$\begin{aligned} & (4c + 7)^2 \\ &= (4c)^2 + 2 \times 7 \times 4c + 7^2 \\ &= 16c^2 + 56c + 49 \end{aligned}$$

$$\begin{aligned} & (5x + 8y)(5x - y) \\ &= (5x)^2 + (8y - y) \times 5x + 8y \times (-y) \\ &= 25x^2 + 35xy - 8y^2 \end{aligned}$$

$$\begin{aligned} & (4b - 2)(4b + 2) \\ &= (4b)^2 - 2^2 \\ &= 16b^2 - 4 \end{aligned}$$

$$\begin{aligned} & (5x + 8y)^2 \\ &= (5x)^2 + 2 \times 5x \times 8y + (8y)^2 \\ &= 25x^2 + 80xy + 64y^2 \end{aligned}$$

$$\begin{aligned} & (2m + 6)(2m - 6) \\ &= (2m)^2 - 6^2 \\ &= 4m^2 - 36 \end{aligned}$$

$$(9b + 3)(9b + 2)$$

$$(5a + 6b)^2$$

$$(6y - 4)(6y + 4)$$

$$(5c - 1)(5c + 3)$$

$$(5a - 6b)^2$$

$$(5n - 4)(5n + 4)$$

$$(3x - 2y)(3x - 8y)$$

$$(5x - 6)(5x + 7)$$

$$(9a - b)(9a + 7b)$$

$$(9x + 5y)(9x - 5y)$$

$$\begin{aligned} & (9b + 3)(9b + 2) \\ &= (9b)^2 + (3 + 2) \times 9b + 3 \times 2 \\ &= 81b^2 + 45b + 6 \end{aligned}$$

$$\begin{aligned} & (5a + 6b)^2 \\ &= (5a)^2 + 2 \times 5a \times 6b + (6b)^2 \\ &= 25a^2 + 60ab + 36b^2 \end{aligned}$$

$$\begin{aligned} & (6y - 4)(6y + 4) \\ &= (6y)^2 - 4^2 \\ &= 36y^2 - 16 \end{aligned}$$

$$\begin{aligned} & (5c - 1)(5c + 3) \\ &= (5c)^2 + (-1 + 3) \times 5c - 1 \times 3 \\ &= 25c^2 + 10c - 3 \end{aligned}$$

$$\begin{aligned} & (5a - 6b)^2 \\ &= (5a)^2 - 2 \times 5a \times 6b + (6b)^2 \\ &= 25a^2 - 60ab + 36b^2 \end{aligned}$$

$$\begin{aligned} & (5n - 4)(5n + 4) \\ &= (5n)^2 - 4^2 \\ &= 25n^2 - 16 \end{aligned}$$

$$\begin{aligned} & (3x - 2y)(3x - 8y) \\ &= (3x)^2 + (-2y - 8y) \times 3x - 2y \times (-8y) \\ &= 9x^2 - 30xy + 16y^2 \end{aligned}$$

$$\begin{aligned} & (5x - 6)(5x + 7) \\ &= (5x)^2 + (-6 + 7) \times 5x - 6 \times 7 \\ &= 25x^2 + 5x - 42 \end{aligned}$$

$$\begin{aligned} & (9a - b)(9a + 7b) \\ &= (9a)^2 + (-b + 7b) \times 9a - b \times 7b \\ &= 81a^2 + 54ab - 7b^2 \end{aligned}$$

$$\begin{aligned} & (9x + 5y)(9x - 5y) \\ &= (9x)^2 - (5y)^2 \\ &= 81x^2 - 25y^2 \end{aligned}$$

$$(6z - 1)(6z + 1)$$

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

$$(2c - 6)(2c + 3)$$

$$(6m + 7)(6m + 2)$$

$$(8a - 3b)(8a + 4b)$$

$$(8n - 2)^2$$

$$(4x + 8y)(4x - y)$$

$$(2a + 9b)(2a - 9b)$$

$$(8m + 5)(8m - 5)$$

$$(5x + 8y)(5x + 7y)$$

$$\begin{aligned} & (6z - 1)(6z + 1) \\ &= (6z)^2 - 1^2 \\ &= 36z^2 - 1 \end{aligned}$$

$$\begin{aligned} & (3x + 2)(3x - 2) \\ &= (3x)^2 - 2^2 \\ &= 9x^2 - 4 \end{aligned}$$

$$\begin{aligned} & (2c - 6)(2c + 3) \\ &= (2c)^2 + (-6 + 3) \times 2c - 6 \times 3 \\ &= 4c^2 - 6c - 18 \end{aligned}$$

$$\begin{aligned} & (6m + 7)(6m + 2) \\ &= (6m)^2 + (7 + 2) \times 6m + 7 \times 2 \\ &= 36m^2 + 54m + 14 \end{aligned}$$

$$\begin{aligned} & (8a - 3b)(8a + 4b) \\ &= (8a)^2 + (-3b + 4b) \times 8a - 3b \times 4b \\ &= 64a^2 + 8ab - 12b^2 \end{aligned}$$

$$\begin{aligned} & (8n - 2)^2 \\ &= (8n)^2 - 2 \times 2 \times 8n + 2^2 \\ &= 64n^2 - 32n + 4 \end{aligned}$$

$$\begin{aligned} & (4x + 8y)(4x - y) \\ &= (4x)^2 + (8y - y) \times 4x + 8y \times (-y) \\ &= 16x^2 + 28xy - 8y^2 \end{aligned}$$

$$\begin{aligned} & (2a + 9b)(2a - 9b) \\ &= (2a)^2 - (9b)^2 \\ &= 4a^2 - 81b^2 \end{aligned}$$

$$\begin{aligned} & (8m + 5)(8m - 5) \\ &= (8m)^2 - 5^2 \\ &= 64m^2 - 25 \end{aligned}$$

$$\begin{aligned} & (5x + 8y)(5x + 7y) \\ &= (5x)^2 + (8y + 7y) \times 5x + 8y \times 7y \\ &= 25x^2 + 75xy + 56y^2 \end{aligned}$$

$$(3x + 2y)(3x + 8y)$$

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

$$(4a - b)^2$$

$$(6a - 4b)^2$$

$$(4a - b)(4a - 8b)$$

$$(8a - 1)^2$$

$$(9z - 4)(9z + 4)$$

$$(3m - 5)(3m + 1)$$

$$(2x + 7y)^2$$

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

$$\begin{aligned} & (3x + 2y)(3x + 8y) \\ &= (3x)^2 + (2y + 8y) \times 3x + 2y \times 8y \\ &= 9x^2 + 30xy + 16y^2 \end{aligned}$$

$$\begin{aligned} & (3x - 8)(3x + 8) \\ &= (3x)^2 - 8^2 \\ &= 9x^2 - 64 \end{aligned}$$

$$\begin{aligned} & (4a - b)^2 \\ &= (4a)^2 - 2 \times 4a \times b + b^2 \\ &= 16a^2 - 8ab + b^2 \end{aligned}$$

$$\begin{aligned} & (6a - 4b)^2 \\ &= (6a)^2 - 2 \times 6a \times 4b + (4b)^2 \\ &= 36a^2 - 48ab + 16b^2 \end{aligned}$$

$$\begin{aligned} & (4a - b)(4a - 8b) \\ &= (4a)^2 + (-b - 8b) \times 4a - b \times (-8b) \\ &= 16a^2 - 36ab + 8b^2 \end{aligned}$$

$$\begin{aligned} & (8a - 1)^2 \\ &= (8a)^2 - 2 \times 1 \times 8a + 1^2 \\ &= 64a^2 - 16a + 1 \end{aligned}$$

$$\begin{aligned} & (9z - 4)(9z + 4) \\ &= (9z)^2 - 4^2 \\ &= 81z^2 - 16 \end{aligned}$$

$$\begin{aligned} & (3m - 5)(3m + 1) \\ &= (3m)^2 + (-5 + 1) \times 3m - 5 \times 1 \\ &= 9m^2 - 12m - 5 \end{aligned}$$

$$\begin{aligned} & (2x + 7y)^2 \\ &= (2x)^2 + 2 \times 2x \times 7y + (7y)^2 \\ &= 4x^2 + 28xy + 49y^2 \end{aligned}$$

$$\begin{aligned} & (2x + 9y)(2x - 9y) \\ &= (2x)^2 - (9y)^2 \\ &= 4x^2 - 81y^2 \end{aligned}$$

$$(2a + 5b)(2a - 5b)$$

$$(2x + 8)(2x - 5)$$

$$(5a - 8b)(5a + 3b)$$

$$(6x + 2y)(6x + 3y)$$

$$(8b + 5)^2$$

$$(6a - 7b)(6a - 2b)$$

$$(6x - 3y)(6x + 4y)$$

$$(6a - 2)^2$$

$$(9a + 5)^2$$

$$(4z + 7)^2$$

$$\begin{aligned} & (2a + 5b)(2a - 5b) \\ &= (2a)^2 - (5b)^2 \\ &= 4a^2 - 25b^2 \end{aligned}$$

$$\begin{aligned} & (2x + 8)(2x - 5) \\ &= (2x)^2 + (8 - 5) \times 2x + 8 \times (-5) \\ &= 4x^2 + 6x - 40 \end{aligned}$$

$$\begin{aligned} & (5a - 8b)(5a + 3b) \\ &= (5a)^2 + (-8b + 3b) \times 5a - 8b \times 3b \\ &= 25a^2 - 25ab - 24b^2 \end{aligned}$$

$$\begin{aligned} & (6x + 2y)(6x + 3y) \\ &= (6x)^2 + (2y + 3y) \times 6x + 2y \times 3y \\ &= 36x^2 + 30xy + 6y^2 \end{aligned}$$

$$\begin{aligned} & (8b + 5)^2 \\ &= (8b)^2 + 2 \times 5 \times 8b + 5^2 \\ &= 64b^2 + 80b + 25 \end{aligned}$$

$$\begin{aligned} & (6a - 7b)(6a - 2b) \\ &= (6a)^2 + (-7b - 2b) \times 6a - 7b \times (-2b) \\ &= 36a^2 - 54ab + 14b^2 \end{aligned}$$

$$\begin{aligned} & (6x - 3y)(6x + 4y) \\ &= (6x)^2 + (-3y + 4y) \times 6x - 3y \times 4y \\ &= 36x^2 + 6xy - 12y^2 \end{aligned}$$

$$\begin{aligned} & (6a - 2)^2 \\ &= (6a)^2 - 2 \times 2 \times 6a + 2^2 \\ &= 36a^2 - 24a + 4 \end{aligned}$$

$$\begin{aligned} & (9a + 5)^2 \\ &= (9a)^2 + 2 \times 5 \times 9a + 5^2 \\ &= 81a^2 + 90a + 25 \end{aligned}$$

$$\begin{aligned} & (4z + 7)^2 \\ &= (4z)^2 + 2 \times 7 \times 4z + 7^2 \\ &= 16z^2 + 56z + 49 \end{aligned}$$

$$(4x - 5)(4x + 5)$$

$$(7n - 8)(7n + 2)$$

$$(2a + b)(2a - b)$$

$$(6x + 3y)^2$$

$$(9a - 5b)^2$$

$$(5n + 8)(5n - 8)$$

$$(9x - 2)^2$$

$$(7a + 5b)(7a - b)$$

$$(7x - 2y)(7x - 5y)$$

$$(6x + 9)(6x - 9)$$

$$\begin{aligned} & (4x - 5)(4x + 5) \\ &= (4x)^2 - 5^2 \\ &= 16x^2 - 25 \end{aligned}$$

$$\begin{aligned} & (7n - 8)(7n + 2) \\ &= (7n)^2 + (-8 + 2) \times 7n - 8 \times 2 \\ &= 49n^2 - 42n - 16 \end{aligned}$$

$$\begin{aligned} & (2a + b)(2a - b) \\ &= (2a)^2 - b^2 \\ &= 4a^2 - b^2 \end{aligned}$$

$$\begin{aligned} & (6x + 3y)^2 \\ &= (6x)^2 + 2 \times 6x \times 3y + (3y)^2 \\ &= 36x^2 + 36xy + 9y^2 \end{aligned}$$

$$\begin{aligned} & (9a - 5b)^2 \\ &= (9a)^2 - 2 \times 9a \times 5b + (5b)^2 \\ &= 81a^2 - 90ab + 25b^2 \end{aligned}$$

$$\begin{aligned} & (5n + 8)(5n - 8) \\ &= (5n)^2 - 8^2 \\ &= 25n^2 - 64 \end{aligned}$$

$$\begin{aligned} & (9x - 2)^2 \\ &= (9x)^2 - 2 \times 2 \times 9x + 2^2 \\ &= 81x^2 - 36x + 4 \end{aligned}$$

$$\begin{aligned} & (7a + 5b)(7a - b) \\ &= (7a)^2 + (5b - b) \times 7a + 5b \times (-b) \\ &= 49a^2 + 28ab - 5b^2 \end{aligned}$$

$$\begin{aligned} & (7x - 2y)(7x - 5y) \\ &= (7x)^2 + (-2y - 5y) \times 7x - 2y \times (-5y) \\ &= 49x^2 - 49xy + 10y^2 \end{aligned}$$

$$\begin{aligned} & (6x + 9)(6x - 9) \\ &= (6x)^2 - 9^2 \\ &= 36x^2 - 81 \end{aligned}$$

$$(3b - 5)^2$$

$$(2b + 6)(2b - 6)$$

$$(7c - 5)^2$$

$$(5m + 2)(5m - 2)$$

$$(2a - 7b)(2a - 4b)$$

$$(9a + 3b)(9a + 7b)$$

$$(7z - 6)(7z + 6)$$

$$(3a - 9b)^2$$

$$(8m - 6)(8m + 6)$$

$$(5b - 7)(5b + 7)$$

$$\begin{aligned} & (3b - 5)^2 \\ &= (3b)^2 - 2 \times 5 \times 3b + 5^2 \\ &= 9b^2 - 30b + 25 \end{aligned}$$

$$\begin{aligned} & (2b + 6)(2b - 6) \\ &= (2b)^2 - 6^2 \\ &= 4b^2 - 36 \end{aligned}$$

$$\begin{aligned} & (7c - 5)^2 \\ &= (7c)^2 - 2 \times 5 \times 7c + 5^2 \\ &= 49c^2 - 70c + 25 \end{aligned}$$

$$\begin{aligned} & (5m + 2)(5m - 2) \\ &= (5m)^2 - 2^2 \\ &= 25m^2 - 4 \end{aligned}$$

$$\begin{aligned} & (2a - 7b)(2a - 4b) \\ &= (2a)^2 + (-7b - 4b) \times 2a - 7b \times (-4b) \\ &= 4a^2 - 22ab + 28b^2 \end{aligned}$$

$$\begin{aligned} & (9a + 3b)(9a + 7b) \\ &= (9a)^2 + (3b + 7b) \times 9a + 3b \times 7b \\ &= 81a^2 + 90ab + 21b^2 \end{aligned}$$

$$\begin{aligned} & (7z - 6)(7z + 6) \\ &= (7z)^2 - 6^2 \\ &= 49z^2 - 36 \end{aligned}$$

$$\begin{aligned} & (3a - 9b)^2 \\ &= (3a)^2 - 2 \times 3a \times 9b + (9b)^2 \\ &= 9a^2 - 54ab + 81b^2 \end{aligned}$$

$$\begin{aligned} & (8m - 6)(8m + 6) \\ &= (8m)^2 - 6^2 \\ &= 64m^2 - 36 \end{aligned}$$

$$\begin{aligned} & (5b - 7)(5b + 7) \\ &= (5b)^2 - 7^2 \\ &= 25b^2 - 49 \end{aligned}$$

$$(8n + 7)^2$$

$$(4a + 6b)(4a - 6b)$$

$$(9m - 4)(9m - 6)$$

$$(4m + 8)(4m - 8)$$

$$(6x + 2)(6x - 2)$$

$$(9b + 3)^2$$

$$(7b + 4)(7b - 4)$$

$$(9x - 3y)^2$$

$$(2a + 7)(2a - 7)$$

$$(3a - 2b)(3a + 4b)$$

$$\begin{aligned} & (8n + 7)^2 \\ &= (8n)^2 + 2 \times 7 \times 8n + 7^2 \\ &= 64n^2 + 112n + 49 \end{aligned}$$

$$\begin{aligned} & (4a + 6b)(4a - 6b) \\ &= (4a)^2 - (6b)^2 \\ &= 16a^2 - 36b^2 \end{aligned}$$

$$\begin{aligned} & (9m - 4)(9m - 6) \\ &= (9m)^2 + (-4 - 6) \times 9m - 4 \times (-6) \\ &= 81m^2 - 90m + 24 \end{aligned}$$

$$\begin{aligned} & (4m + 8)(4m - 8) \\ &= (4m)^2 - 8^2 \\ &= 16m^2 - 64 \end{aligned}$$

$$\begin{aligned} & (6x + 2)(6x - 2) \\ &= (6x)^2 - 2^2 \\ &= 36x^2 - 4 \end{aligned}$$

$$\begin{aligned} & (9b + 3)^2 \\ &= (9b)^2 + 2 \times 3 \times 9b + 3^2 \\ &= 81b^2 + 54b + 9 \end{aligned}$$

$$\begin{aligned} & (7b + 4)(7b - 4) \\ &= (7b)^2 - 4^2 \\ &= 49b^2 - 16 \end{aligned}$$

$$\begin{aligned} & (9x - 3y)^2 \\ &= (9x)^2 - 2 \times 9x \times 3y + (3y)^2 \\ &= 81x^2 - 54xy + 9y^2 \end{aligned}$$

$$\begin{aligned} & (2a + 7)(2a - 7) \\ &= (2a)^2 - 7^2 \\ &= 4a^2 - 49 \end{aligned}$$

$$\begin{aligned} & (3a - 2b)(3a + 4b) \\ &= (3a)^2 + (-2b + 4b) \times 3a - 2b \times 4b \\ &= 9a^2 + 6ab - 8b^2 \end{aligned}$$

$$(8x - 3y)(8x + 9y)$$

$$(8x + 4y)(8x - 7y)$$

$$(2c - 9)^2$$

$$(4a - 2b)(4a + 5b)$$

$$(7x + 6y)(7x - 6y)$$

$$(5x + 7y)(5x - 2y)$$

$$(5y + 6)^2$$

$$(9b + 3)(9b + 6)$$

$$(8a + 4b)^2$$

$$(3x + 8y)^2$$

$$\begin{aligned} & (8x - 3y)(8x + 9y) \\ &= (8x)^2 + (-3y + 9y) \times 8x - 3y \times 9y \\ &= 64x^2 + 48xy - 27y^2 \end{aligned}$$

$$\begin{aligned} & (8x + 4y)(8x - 7y) \\ &= (8x)^2 + (4y - 7y) \times 8x + 4y \times (-7y) \\ &= 64x^2 - 24xy - 28y^2 \end{aligned}$$

$$\begin{aligned} & (2c - 9)^2 \\ &= (2c)^2 - 2 \times 9 \times 2c + 9^2 \\ &= 4c^2 - 36c + 81 \end{aligned}$$

$$\begin{aligned} & (4a - 2b)(4a + 5b) \\ &= (4a)^2 + (-2b + 5b) \times 4a - 2b \times 5b \\ &= 16a^2 + 12ab - 10b^2 \end{aligned}$$

$$\begin{aligned} & (7x + 6y)(7x - 6y) \\ &= (7x)^2 - (6y)^2 \\ &= 49x^2 - 36y^2 \end{aligned}$$

$$\begin{aligned} & (5x + 7y)(5x - 2y) \\ &= (5x)^2 + (7y - 2y) \times 5x + 7y \times (-2y) \\ &= 25x^2 + 25xy - 14y^2 \end{aligned}$$

$$\begin{aligned} & (5y + 6)^2 \\ &= (5y)^2 + 2 \times 6 \times 5y + 6^2 \\ &= 25y^2 + 60y + 36 \end{aligned}$$

$$\begin{aligned} & (9b + 3)(9b + 6) \\ &= (9b)^2 + (3 + 6) \times 9b + 3 \times 6 \\ &= 81b^2 + 81b + 18 \end{aligned}$$

$$\begin{aligned} & (8a + 4b)^2 \\ &= (8a)^2 + 2 \times 8a \times 4b + (4b)^2 \\ &= 64a^2 + 64ab + 16b^2 \end{aligned}$$

$$\begin{aligned} & (3x + 8y)^2 \\ &= (3x)^2 + 2 \times 3x \times 8y + (8y)^2 \\ &= 9x^2 + 48xy + 64y^2 \end{aligned}$$

問題

乗法公式を使って、多項式を展開しましょう。

$$(z - 4)(z - 6) - (z + 9)(z - 2)$$

$$(c - 9)(c - 8) + 3(c - 4)^2$$

$$(b - 2)(b + 6) + (b + 2)(b + 3)$$

$$2(x - 3)(x + 7) + (x + 8)(x - 5)$$

$$(a + 2)(a + 9) - (a + 8)(a - 3)$$

$$\begin{aligned} & (z - 4)(z - 6) - (z + 9)(z - 2) \\ &= (z^2 - 10z + 24) - (z^2 + 7z - 18) \\ &= z^2 - 10z + 24 - z^2 - 7z + 18 \\ &= -17z + 42 \end{aligned}$$

$$\begin{aligned} & (c - 9)(c - 8) + 3(c - 4)^2 \\ &= (c^2 - 17c + 72) + 3(c^2 - 8c + 16) \\ &= c^2 - 17c + 72 + 3c^2 - 24c + 48 \\ &= 4c^2 - 41c + 120 \end{aligned}$$

$$\begin{aligned} & (b - 2)(b + 6) + (b + 2)(b + 3) \\ &= (b^2 + 4b - 12) + (b^2 + 5b + 6) \\ &= b^2 + 4b - 12 + b^2 + 5b + 6 \\ &= 2b^2 + 9b - 6 \end{aligned}$$

$$\begin{aligned} & 2(x - 3)(x + 7) + (x + 8)(x - 5) \\ &= 2(x^2 + 4x - 21) + (x^2 + 3x - 40) \\ &= 2x^2 + 8x - 42 + x^2 + 3x - 40 \\ &= 3x^2 + 11x - 82 \end{aligned}$$

$$\begin{aligned} & (a + 2)(a + 9) - (a + 8)(a - 3) \\ &= (a^2 + 11a + 18) - (a^2 + 5a - 24) \\ &= a^2 + 11a + 18 - a^2 - 5a + 24 \\ &= 6a + 42 \end{aligned}$$

$$(x + 7)(x + 5) + (x + 6)(x - 6)$$

$$(m + 8)(m + 5) + (m - 8)(m + 4)$$

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

$$(n - 8)(n + 8) - (n - 2)(n - 8)$$

$$(b - 8)(b - 4) - (b - 7)(b + 5)$$

$$\begin{aligned} & (x+7)(x+5) + (x+6)(x-6) \\ &= (x^2 + 12x + 35) + (x^2 - 36) \\ &= x^2 + 12x + 35 + x^2 - 36 \\ &= 2x^2 + 12x - 1 \end{aligned}$$

$$\begin{aligned} & (m+8)(m+5) + (m-8)(m+4) \\ &= (m^2 + 13m + 40) + (m^2 - 4m - 32) \\ &= m^2 + 13m + 40 + m^2 - 4m - 32 \\ &= 2m^2 + 9m + 8 \end{aligned}$$

$$\begin{aligned} & (3a-2)(3a+4) - (3a+4)(3a+5) \\ &= (9a^2 + 6a - 8) - (9a^2 + 27a + 20) \\ &= 9a^2 + 6a - 8 - 9a^2 - 27a - 20 \\ &= -21a - 28 \end{aligned}$$

$$\begin{aligned} & (n-8)(n+8) - (n-2)(n-8) \\ &= (n^2 - 64) - (n^2 - 10n + 16) \\ &= n^2 - 64 - n^2 + 10n - 16 \\ &= 10n - 80 \end{aligned}$$

$$\begin{aligned} & (b-8)(b-4) - (b-7)(b+5) \\ &= (b^2 - 12b + 32) - (b^2 - 2b - 35) \\ &= b^2 - 12b + 32 - b^2 + 2b + 35 \\ &= -10b + 67 \end{aligned}$$

$$(n - 2)(n - 8) + (5n - 6)(5n - 7)$$

$$(8c + 5)(8c - 7) - (5c + 3)(5c - 4)$$

$$-4(m - 4)(m - 9) + (m - 7)(m + 5)$$

$$(3c + 4)(3c - 8) + (9c + 7)(9c - 2)$$

$$(n - 2)^2 - (n + 2)(n - 8)$$

$$\begin{aligned} & (n-2)(n-8) + (5n-6)(5n-7) \\ &= (n^2 - 10n + 16) + (25n^2 - 65n + 42) \\ &= n^2 - 10n + 16 + 25n^2 - 65n + 42 \\ &= 26n^2 - 75n + 58 \end{aligned}$$

$$\begin{aligned} & (8c+5)(8c-7) - (5c+3)(5c-4) \\ &= (64c^2 - 16c - 35) - (25c^2 - 5c - 12) \\ &= 64c^2 - 16c - 35 - 25c^2 + 5c + 12 \\ &= 39c^2 - 11c - 23 \end{aligned}$$

$$\begin{aligned} & -4(m-4)(m-9) + (m-7)(m+5) \\ &= -4(m^2 - 13m + 36) + (m^2 - 2m - 35) \\ &= -4m^2 + 52m - 144 + m^2 - 2m - 35 \\ &= -3m^2 + 50m - 179 \end{aligned}$$

$$\begin{aligned} & (3c+4)(3c-8) + (9c+7)(9c-2) \\ &= (9c^2 - 12c - 32) + (81c^2 + 45c - 14) \\ &= 9c^2 - 12c - 32 + 81c^2 + 45c - 14 \\ &= 90c^2 + 33c - 46 \end{aligned}$$

$$\begin{aligned} & (n-2)^2 - (n+2)(n-8) \\ &= (n^2 - 4n + 4) - (n^2 - 6n - 16) \\ &= n^2 - 4n + 4 - n^2 + 6n + 16 \\ &= 2n + 20 \end{aligned}$$

$$(4z - 7)(4z + 1) + (5z - 2)(5z + 9)$$

$$(9a - 7)(9a - 1) - (6a + 2)(6a - 5)$$

$$(z + 3)(z + 5) - (z + 6)^2$$

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

$$(n - 5)(n - 3) - (n - 6)(n - 7)$$

$$\begin{aligned} & (4z - 7)(4z + 1) + (5z - 2)(5z + 9) \\ &= (16z^2 - 24z - 7) + (25z^2 + 35z - 18) \\ &= 16z^2 - 24z - 7 + 25z^2 + 35z - 18 \\ &= 41z^2 + 11z - 25 \end{aligned}$$

$$\begin{aligned} & (9a - 7)(9a - 1) - (6a + 2)(6a - 5) \\ &= (81a^2 - 72a + 7) - (36a^2 - 18a - 10) \\ &= 81a^2 - 72a + 7 - 36a^2 + 18a + 10 \\ &= 45a^2 - 54a + 17 \end{aligned}$$

$$\begin{aligned} & (z + 3)(z + 5) - (z + 6)^2 \\ &= (z^2 + 8z + 15) - (z^2 + 12z + 36) \\ &= z^2 + 8z + 15 - z^2 - 12z - 36 \\ &= -4z - 21 \end{aligned}$$

$$\begin{aligned} & (y - 2)(y - 5) + (y + 4)(y + 2) \\ &= (y^2 - 7y + 10) + (y^2 + 6y + 8) \\ &= y^2 - 7y + 10 + y^2 + 6y + 8 \\ &= 2y^2 - y + 18 \end{aligned}$$

$$\begin{aligned} & (n - 5)(n - 3) - (n - 6)(n - 7) \\ &= (n^2 - 8n + 15) - (n^2 - 13n + 42) \\ &= n^2 - 8n + 15 - n^2 + 13n - 42 \\ &= 5n - 27 \end{aligned}$$

$$(n + 9)(n + 2) + (n + 5)(n + 6)$$

$$(b + 5)(b + 8) - (b - 9)(b - 5)$$

$$(x - 6)(x + 4) - (x + 3)(x - 8)$$

$$(9m + 3)(9m - 6) + (6m + 9)(6m - 1)$$

$$(c - 7)(c - 9) - (c + 5)(c - 2)$$

$$\begin{aligned} & (n+9)(n+2) + (n+5)(n+6) \\ &= (n^2 + 11n + 18) + (n^2 + 11n + 30) \\ &= n^2 + 11n + 18 + n^2 + 11n + 30 \\ &= 2n^2 + 22n + 48 \end{aligned}$$

$$\begin{aligned} & (b+5)(b+8) - (b-9)(b-5) \\ &= (b^2 + 13b + 40) - (b^2 - 14b + 45) \\ &= b^2 + 13b + 40 - b^2 + 14b - 45 \\ &= 27b - 5 \end{aligned}$$

$$\begin{aligned} & (x-6)(x+4) - (x+3)(x-8) \\ &= (x^2 - 2x - 24) - (x^2 - 5x - 24) \\ &= x^2 - 2x - 24 - x^2 + 5x + 24 \\ &= 3x \end{aligned}$$

$$\begin{aligned} & (9m+3)(9m-6) + (6m+9)(6m-1) \\ &= (81m^2 - 27m - 18) + (36m^2 + 48m - 9) \\ &= 81m^2 - 27m - 18 + 36m^2 + 48m - 9 \\ &= 117m^2 + 21m - 27 \end{aligned}$$

$$\begin{aligned} & (c-7)(c-9) - (c+5)(c-2) \\ &= (c^2 - 16c + 63) - (c^2 + 3c - 10) \\ &= c^2 - 16c + 63 - c^2 - 3c + 10 \\ &= -19c + 73 \end{aligned}$$

$$(n + 2)(n - 8) + (n + 9)^2$$

$$(b + 4)(b - 7) + (b - 2)(b + 3)$$

$$(c + 4)(c + 8) - (c - 2)(c - 3)$$

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

$$(b + 9)(b + 8) + (b + 8)(b + 6)$$

$$\begin{aligned} & (n+2)(n-8) + (n+9)^2 \\ &= (n^2 - 6n - 16) + (n^2 + 18n + 81) \\ &= n^2 - 6n - 16 + n^2 + 18n + 81 \\ &= 2n^2 + 12n + 65 \end{aligned}$$

$$\begin{aligned} & (b+4)(b-7) + (b-2)(b+3) \\ &= (b^2 - 3b - 28) + (b^2 + b - 6) \\ &= b^2 - 3b - 28 + b^2 + b - 6 \\ &= 2b^2 - 2b - 34 \end{aligned}$$

$$\begin{aligned} & (c+4)(c+8) - (c-2)(c-3) \\ &= (c^2 + 12c + 32) - (c^2 - 5c + 6) \\ &= c^2 + 12c + 32 - c^2 + 5c - 6 \\ &= 17c + 26 \end{aligned}$$

$$\begin{aligned} & (x+7)(x-5) + (x+2)(x+4) \\ &= (x^2 + 2x - 35) + (x^2 + 6x + 8) \\ &= x^2 + 2x - 35 + x^2 + 6x + 8 \\ &= 2x^2 + 8x - 27 \end{aligned}$$

$$\begin{aligned} & (b+9)(b+8) + (b+8)(b+6) \\ &= (b^2 + 17b + 72) + (b^2 + 14b + 48) \\ &= b^2 + 17b + 72 + b^2 + 14b + 48 \\ &= 2b^2 + 31b + 120 \end{aligned}$$

$$(m - 4)(m - 7) + (m - 6)(m + 3)$$

$$(m - 7)(m - 2) + (m + 2)(m - 2)$$

$$(x - 2)(x + 5) - 2(x - 8)(x + 2)$$

$$(x + 6)(x + 2) + (4x + 5)(4x + 6)$$

$$(n + 2)(n + 9) + (n + 3)(n + 7)$$

$$\begin{aligned} & (m-4)(m-7) + (m-6)(m+3) \\ &= (m^2 - 11m + 28) + (m^2 - 3m - 18) \\ &= m^2 - 11m + 28 + m^2 - 3m - 18 \\ &= 2m^2 - 14m + 10 \end{aligned}$$

$$\begin{aligned} & (m-7)(m-2) + (m+2)(m-2) \\ &= (m^2 - 9m + 14) + (m^2 - 4) \\ &= m^2 - 9m + 14 + m^2 - 4 \\ &= 2m^2 - 9m + 10 \end{aligned}$$

$$\begin{aligned} & (x-2)(x+5) - 2(x-8)(x+2) \\ &= (x^2 + 3x - 10) - 2(x^2 - 6x - 16) \\ &= x^2 + 3x - 10 - 2x^2 + 12x + 32 \\ &= -x^2 + 15x + 22 \end{aligned}$$

$$\begin{aligned} & (x+6)(x+2) + (4x+5)(4x+6) \\ &= (x^2 + 8x + 12) + (16x^2 + 44x + 30) \\ &= x^2 + 8x + 12 + 16x^2 + 44x + 30 \\ &= 17x^2 + 52x + 42 \end{aligned}$$

$$\begin{aligned} & (n+2)(n+9) + (n+3)(n+7) \\ &= (n^2 + 11n + 18) + (n^2 + 10n + 21) \\ &= n^2 + 11n + 18 + n^2 + 10n + 21 \\ &= 2n^2 + 21n + 39 \end{aligned}$$

$$(a + 7)(a - 9) + (a - 5)(a - 2)$$

$$(8x - 7)(8x + 7) + (2x - 9)(2x - 7)$$

$$(n - 6)(n - 9) + (n - 9)(n - 7)$$

$$(7b + 4)(7b + 6) + (2b - 3)(2b + 3)$$

$$(m + 8)(m + 4) - (m + 7)(m + 3)$$

$$\begin{aligned} & (a + 7)(a - 9) + (a - 5)(a - 2) \\ &= (a^2 - 2a - 63) + (a^2 - 7a + 10) \\ &= a^2 - 2a - 63 + a^2 - 7a + 10 \\ &= 2a^2 - 9a - 53 \end{aligned}$$

$$\begin{aligned} & (8x - 7)(8x + 7) + (2x - 9)(2x - 7) \\ &= (64x^2 - 49) + (4x^2 - 32x + 63) \\ &= 64x^2 - 49 + 4x^2 - 32x + 63 \\ &= 68x^2 - 32x + 14 \end{aligned}$$

$$\begin{aligned} & (n - 6)(n - 9) + (n - 9)(n - 7) \\ &= (n^2 - 15n + 54) + (n^2 - 16n + 63) \\ &= n^2 - 15n + 54 + n^2 - 16n + 63 \\ &= 2n^2 - 31n + 117 \end{aligned}$$

$$\begin{aligned} & (7b + 4)(7b + 6) + (2b - 3)(2b + 3) \\ &= (49b^2 + 70b + 24) + (4b^2 - 9) \\ &= 49b^2 + 70b + 24 + 4b^2 - 9 \\ &= 53b^2 + 70b + 15 \end{aligned}$$

$$\begin{aligned} & (m + 8)(m + 4) - (m + 7)(m + 3) \\ &= (m^2 + 12m + 32) - (m^2 + 10m + 21) \\ &= m^2 + 12m + 32 - m^2 - 10m - 21 \\ &= 2m + 11 \end{aligned}$$

$$(7c - 3)(7c + 3) + (6c + 7)^2$$

$$-4(5y - 9)(5y + 1) + (7y - 5)(7y + 8)$$

$$(n - 7)(n - 9) - (n + 5)(n - 2)$$

$$(3a + 4)(3a - 9) + (6a - 3)(6a - 7)$$

$$(6b - 3)(6b - 5) - (7b + 2)^2$$

$$\begin{aligned} & (7c - 3)(7c + 3) + (6c + 7)^2 \\ &= (49c^2 - 9) + (36c^2 + 84c + 49) \\ &= 49c^2 - 9 + 36c^2 + 84c + 49 \\ &= 85c^2 + 84c + 40 \end{aligned}$$

$$\begin{aligned} & -4(5y - 9)(5y + 1) + (7y - 5)(7y + 8) \\ &= -4(25y^2 - 40y - 9) + (49y^2 + 21y - 40) \\ &= -100y^2 + 160y + 36 + 49y^2 + 21y - 40 \\ &= -51y^2 + 181y - 4 \end{aligned}$$

$$\begin{aligned} & (n - 7)(n - 9) - (n + 5)(n - 2) \\ &= (n^2 - 16n + 63) - (n^2 + 3n - 10) \\ &= n^2 - 16n + 63 - n^2 - 3n + 10 \\ &= -19n + 73 \end{aligned}$$

$$\begin{aligned} & (3a + 4)(3a - 9) + (6a - 3)(6a - 7) \\ &= (9a^2 - 15a - 36) + (36a^2 - 60a + 21) \\ &= 9a^2 - 15a - 36 + 36a^2 - 60a + 21 \\ &= 45a^2 - 75a - 15 \end{aligned}$$

$$\begin{aligned} & (6b - 3)(6b - 5) - (7b + 2)^2 \\ &= (36b^2 - 48b + 15) - (49b^2 + 28b + 4) \\ &= 36b^2 - 48b + 15 - 49b^2 - 28b - 4 \\ &= -13b^2 - 76b + 11 \end{aligned}$$

$$(n + 8)(n + 7) + 4(n + 4)(n + 2)$$

$$(7x + 2)(7x - 6) - (x + 2)(x + 3)$$

$$(z - 3)(z - 6) + (z - 5)(z - 4)$$

$$-3(c - 2)(c + 6) + (c + 9)(c - 9)$$

$$(4a - 5)(4a - 1) + (8a + 1)(8a + 9)$$

$$\begin{aligned} & (n+8)(n+7) + 4(n+4)(n+2) \\ &= (n^2 + 15n + 56) + 4(n^2 + 6n + 8) \\ &= n^2 + 15n + 56 + 4n^2 + 24n + 32 \\ &= 5n^2 + 39n + 88 \end{aligned}$$

$$\begin{aligned} & (7x+2)(7x-6) - (x+2)(x+3) \\ &= (49x^2 - 28x - 12) - (x^2 + 5x + 6) \\ &= 49x^2 - 28x - 12 - x^2 - 5x - 6 \\ &= 48x^2 - 33x - 18 \end{aligned}$$

$$\begin{aligned} & (z-3)(z-6) + (z-5)(z-4) \\ &= (z^2 - 9z + 18) + (z^2 - 9z + 20) \\ &= z^2 - 9z + 18 + z^2 - 9z + 20 \\ &= 2z^2 - 18z + 38 \end{aligned}$$

$$\begin{aligned} & -3(c-2)(c+6) + (c+9)(c-9) \\ &= -3(c^2 + 4c - 12) + (c^2 - 81) \\ &= -3c^2 - 12c + 36 + c^2 - 81 \\ &= -2c^2 - 12c - 45 \end{aligned}$$

$$\begin{aligned} & (4a-5)(4a-1) + (8a+1)(8a+9) \\ &= (16a^2 - 24a + 5) + (64a^2 + 80a + 9) \\ &= 16a^2 - 24a + 5 + 64a^2 + 80a + 9 \\ &= 80a^2 + 56a + 14 \end{aligned}$$

問題

乗法公式を使って、多項式を展開しましょう。

$$(a - b + 13)(a - b - 13)$$

$$(a + b + 8)(a + b - 7)$$

$$(x + y - 7)(x + y - 8)$$

$$(a + b + 8)(a + b + 6)$$

$$(a - b - 3)(a - b - 4)$$

$$(x - y - 6)(x - y + 8)$$

$$(a - b - 5)(a - b - 8)$$

$$(x + y - 5)(x + y - 4)$$

$$(a - b + 2)(a - b + 4)$$

$$(a - b - 17)(a - b + 17)$$

$$\begin{aligned} & (a - b + 13)(a - b - 13) \\ &= (a - b)^2 - 13^2 \\ &= a^2 - 2ab + b^2 - 169 \end{aligned}$$

$$\begin{aligned} & (a + b + 8)(a + b - 7) \\ &= (a + b)^2 + (a + b) + 8 \times (-7) \\ &= a^2 + 2ab + b^2 + a + b - 56 \end{aligned}$$

$$\begin{aligned} & (x + y - 7)(x + y - 8) \\ &= (x + y)^2 - 15(x + y) - 7 \times (-8) \\ &= x^2 + 2xy + y^2 - 15x - 15y + 56 \end{aligned}$$

$$\begin{aligned} & (a + b + 8)(a + b + 6) \\ &= (a + b)^2 + 14(a + b) + 8 \times 6 \\ &= a^2 + 2ab + b^2 + 14a + 14b + 48 \end{aligned}$$

$$\begin{aligned} & (a - b - 3)(a - b - 4) \\ &= (a - b)^2 - 7(a - b) - 3 \times (-4) \\ &= a^2 - 2ab + b^2 - 7a + 7b + 12 \end{aligned}$$

$$\begin{aligned} & (x - y - 6)(x - y + 8) \\ &= (x - y)^2 + 2(x - y) - 6 \times 8 \\ &= x^2 - 2xy + y^2 + 2x - 2y - 48 \end{aligned}$$

$$\begin{aligned} & (a - b - 5)(a - b - 8) \\ &= (a - b)^2 - 13(a - b) - 5 \times (-8) \\ &= a^2 - 2ab + b^2 - 13a + 13b + 40 \end{aligned}$$

$$\begin{aligned} & (x + y - 5)(x + y - 4) \\ &= (x + y)^2 - 9(x + y) - 5 \times (-4) \\ &= x^2 + 2xy + y^2 - 9x - 9y + 20 \end{aligned}$$

$$\begin{aligned} & (a - b + 2)(a - b + 4) \\ &= (a - b)^2 + 6(a - b) + 2 \times 4 \\ &= a^2 - 2ab + b^2 + 6a - 6b + 8 \end{aligned}$$

$$\begin{aligned} & (a - b - 17)(a - b + 17) \\ &= (a - b)^2 - 17^2 \\ &= a^2 - 2ab + b^2 - 289 \end{aligned}$$

$$(a - b + 6)(a - b + 1)$$

$$(p + q - 4)^2$$

$$(x - y + 9)(x - y - 6)$$

$$(a - b + 6)(a - b - 3)$$

$$(a - b - 6)(a - b - 2)$$

$$(a + b - 2)(a + b - 1)$$

$$(x + y + 17)(x + y - 17)$$

$$(a + b + 20)(a + b - 20)$$

$$(a - b + 3)(a - b + 8)$$

$$(x + y - 4)(x + y - 3)$$

$$\begin{aligned} & (a - b + 6)(a - b + 1) \\ &= (a - b)^2 + 7(a - b) + 6 \times 1 \\ &= a^2 - 2ab + b^2 + 7a - 7b + 6 \end{aligned}$$

$$\begin{aligned} & (p + q - 4)^2 \\ &= (p + q)^2 - 2 \times 4 \times (p + q) + 4^2 \\ &= p^2 + 2pq + q^2 - 8p - 8q + 16 \end{aligned}$$

$$\begin{aligned} & (x - y + 9)(x - y - 6) \\ &= (x - y)^2 + 3(x - y) + 9 \times (-6) \\ &= x^2 - 2xy + y^2 + 3x - 3y - 54 \end{aligned}$$

$$\begin{aligned} & (a - b + 6)(a - b - 3) \\ &= (a - b)^2 + 3(a - b) + 6 \times (-3) \\ &= a^2 - 2ab + b^2 + 3a - 3b - 18 \end{aligned}$$

$$\begin{aligned} & (a - b - 6)(a - b - 2) \\ &= (a - b)^2 - 8(a - b) - 6 \times (-2) \\ &= a^2 - 2ab + b^2 - 8a + 8b + 12 \end{aligned}$$

$$\begin{aligned} & (a + b - 2)(a + b - 1) \\ &= (a + b)^2 - 3(a + b) - 2 \times (-1) \\ &= a^2 + 2ab + b^2 - 3a - 3b + 2 \end{aligned}$$

$$\begin{aligned} & (x + y + 17)(x + y - 17) \\ &= (x + y)^2 - 17^2 \\ &= x^2 + 2xy + y^2 - 289 \end{aligned}$$

$$\begin{aligned} & (a + b + 20)(a + b - 20) \\ &= (a + b)^2 - 20^2 \\ &= a^2 + 2ab + b^2 - 400 \end{aligned}$$

$$\begin{aligned} & (a - b + 3)(a - b + 8) \\ &= (a - b)^2 + 11(a - b) + 3 \times 8 \\ &= a^2 - 2ab + b^2 + 11a - 11b + 24 \end{aligned}$$

$$\begin{aligned} & (x + y - 4)(x + y - 3) \\ &= (x + y)^2 - 7(x + y) - 4 \times (-3) \\ &= x^2 + 2xy + y^2 - 7x - 7y + 12 \end{aligned}$$

$$(a - b - 9)(a - b + 1)$$

$$(x - y + 8)(x - y - 5)$$

$$(x + y - 6)(x + y - 3)$$

$$(a - b - 11)(a - b + 11)$$

$$(a - b + 20)(a - b - 20)$$

$$(a - b + 4)(a - b - 9)$$

$$(a + b + 7)(a + b + 8)$$

$$(a + b + 8)(a + b - 5)$$

$$(a + b + 4)(a + b + 3)$$

$$(m + n - 3)^2$$

$$\begin{aligned} & (a - b - 9)(a - b + 1) \\ &= (a - b)^2 - 8(a - b) - 9 \times 1 \\ &= a^2 - 2ab + b^2 - 8a + 8b - 9 \end{aligned}$$

$$\begin{aligned} & (x - y + 8)(x - y - 5) \\ &= (x - y)^2 + 3(x - y) + 8 \times (-5) \\ &= x^2 - 2xy + y^2 + 3x - 3y - 40 \end{aligned}$$

$$\begin{aligned} & (x + y - 6)(x + y - 3) \\ &= (x + y)^2 - 9(x + y) - 6 \times (-3) \\ &= x^2 + 2xy + y^2 - 9x - 9y + 18 \end{aligned}$$

$$\begin{aligned} & (a - b - 11)(a - b + 11) \\ &= (a - b)^2 - 11^2 \\ &= a^2 - 2ab + b^2 - 121 \end{aligned}$$

$$\begin{aligned} & (a - b + 20)(a - b - 20) \\ &= (a - b)^2 - 20^2 \\ &= a^2 - 2ab + b^2 - 400 \end{aligned}$$

$$\begin{aligned} & (a - b + 4)(a - b - 9) \\ &= (a - b)^2 - 5(a - b) + 4 \times (-9) \\ &= a^2 - 2ab + b^2 - 5a + 5b - 36 \end{aligned}$$

$$\begin{aligned} & (a + b + 7)(a + b + 8) \\ &= (a + b)^2 + 15(a + b) + 7 \times 8 \\ &= a^2 + 2ab + b^2 + 15a + 15b + 56 \end{aligned}$$

$$\begin{aligned} & (a + b + 8)(a + b - 5) \\ &= (a + b)^2 + 3(a + b) + 8 \times (-5) \\ &= a^2 + 2ab + b^2 + 3a + 3b - 40 \end{aligned}$$

$$\begin{aligned} & (a + b + 4)(a + b + 3) \\ &= (a + b)^2 + 7(a + b) + 4 \times 3 \\ &= a^2 + 2ab + b^2 + 7a + 7b + 12 \end{aligned}$$

$$\begin{aligned} & (m + n - 3)^2 \\ &= (m + n)^2 - 2 \times 3 \times (m + n) + 3^2 \\ &= m^2 + 2mn + n^2 - 6m - 6n + 9 \end{aligned}$$

$$(x - y - 7)(x - y - 6)$$

$$(x - y - 3)(x - y + 1)$$

$$(x + y - 7)(x + y - 1)$$

$$(x - y + 8)(x - y + 2)$$

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

$$(x + y - 7)^2$$

$$(a + b - 1)(a + b + 7)$$

$$(p + q + 8)^2$$

$$(a - b - 7)(a - b - 3)$$

$$(x - y - 6)(x - y - 9)$$

$$\begin{aligned}
& (x - y - 7)(x - y - 6) \\
&= (x - y)^2 - 13(x - y) - 7 \times (-6) \\
&= x^2 - 2xy + y^2 - 13x + 13y + 42
\end{aligned}$$

$$\begin{aligned}
& (x - y - 3)(x - y + 1) \\
&= (x - y)^2 - 2(x - y) - 3 \times 1 \\
&= x^2 - 2xy + y^2 - 2x + 2y - 3
\end{aligned}$$

$$\begin{aligned}
& (x + y - 7)(x + y - 1) \\
&= (x + y)^2 - 8(x + y) - 7 \times (-1) \\
&= x^2 + 2xy + y^2 - 8x - 8y + 7
\end{aligned}$$

$$\begin{aligned}
& (x - y + 8)(x - y + 2) \\
&= (x - y)^2 + 10(x - y) + 8 \times 2 \\
&= x^2 - 2xy + y^2 + 10x - 10y + 16
\end{aligned}$$

$$\begin{aligned}
& (x - y + 2)(x - y + 1) \\
&= (x - y)^2 + 3(x - y) + 2 \times 1 \\
&= x^2 - 2xy + y^2 + 3x - 3y + 2
\end{aligned}$$

$$\begin{aligned}
& (x + y - 7)^2 \\
&= (x + y)^2 - 2 \times 7 \times (x + y) + 7^2 \\
&= x^2 + 2xy + y^2 - 14x - 14y + 49
\end{aligned}$$

$$\begin{aligned}
& (a + b - 1)(a + b + 7) \\
&= (a + b)^2 + 6(a + b) - 1 \times 7 \\
&= a^2 + 2ab + b^2 + 6a + 6b - 7
\end{aligned}$$

$$\begin{aligned}
& (p + q + 8)^2 \\
&= (p + q)^2 + 2 \times 8 \times (p + q) + 8^2 \\
&= p^2 + 2pq + q^2 + 16p + 16q + 64
\end{aligned}$$

$$\begin{aligned}
& (a - b - 7)(a - b - 3) \\
&= (a - b)^2 - 10(a - b) - 7 \times (-3) \\
&= a^2 - 2ab + b^2 - 10a + 10b + 21
\end{aligned}$$

$$\begin{aligned}
& (x - y - 6)(x - y - 9) \\
&= (x - y)^2 - 15(x - y) - 6 \times (-9) \\
&= x^2 - 2xy + y^2 - 15x + 15y + 54
\end{aligned}$$

$$(x + y - 7)(x + y + 3)$$

$$(a - b - 9)(a - b - 4)$$

$$(a + b - 9)(a + b - 8)$$

$$(a + b + 8)(a + b - 2)$$

$$(a + b - 19)(a + b + 19)$$

$$(a + b + 1)(a + b - 5)$$

$$(x - y - 18)(x - y + 18)$$

$$(x - y - 5)(x - y + 6)$$

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

$$(x + y - 1)(x + y - 3)$$

$$\begin{aligned} & (x + y - 7)(x + y + 3) \\ &= (x + y)^2 - 4(x + y) - 7 \times 3 \\ &= x^2 + 2xy + y^2 - 4x - 4y - 21 \end{aligned}$$

$$\begin{aligned} & (a - b - 9)(a - b - 4) \\ &= (a - b)^2 - 13(a - b) - 9 \times (-4) \\ &= a^2 - 2ab + b^2 - 13a + 13b + 36 \end{aligned}$$

$$\begin{aligned} & (a + b - 9)(a + b - 8) \\ &= (a + b)^2 - 17(a + b) - 9 \times (-8) \\ &= a^2 + 2ab + b^2 - 17a - 17b + 72 \end{aligned}$$

$$\begin{aligned} & (a + b + 8)(a + b - 2) \\ &= (a + b)^2 + 6(a + b) + 8 \times (-2) \\ &= a^2 + 2ab + b^2 + 6a + 6b - 16 \end{aligned}$$

$$\begin{aligned} & (a + b - 19)(a + b + 19) \\ &= (a + b)^2 - 19^2 \\ &= a^2 + 2ab + b^2 - 361 \end{aligned}$$

$$\begin{aligned} & (a + b + 1)(a + b - 5) \\ &= (a + b)^2 - 4(a + b) + 1 \times (-5) \\ &= a^2 + 2ab + b^2 - 4a - 4b - 5 \end{aligned}$$

$$\begin{aligned} & (x - y - 18)(x - y + 18) \\ &= (x - y)^2 - 18^2 \\ &= x^2 - 2xy + y^2 - 324 \end{aligned}$$

$$\begin{aligned} & (x - y - 5)(x - y + 6) \\ &= (x - y)^2 + (x - y) - 5 \times 6 \\ &= x^2 - 2xy + y^2 + x - y - 30 \end{aligned}$$

$$\begin{aligned} & (a - b - 3)(a - b + 7) \\ &= (a - b)^2 + 4(a - b) - 3 \times 7 \\ &= a^2 - 2ab + b^2 + 4a - 4b - 21 \end{aligned}$$

$$\begin{aligned} & (x + y - 1)(x + y - 3) \\ &= (x + y)^2 - 4(x + y) - 1 \times (-3) \\ &= x^2 + 2xy + y^2 - 4x - 4y + 3 \end{aligned}$$

$$(x + y - 2)(x + y - 4)$$

$$(x - y - 6)^2$$

$$(a + b + 5)^2$$

$$(x + y - 1)(x + y - 3)$$

$$(x - y - 9)(x - y - 2)$$

$$(a + b - 4)(a + b + 6)$$

$$(x + y - 4)(x + y + 3)$$

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

$$(a + b - 7)^2$$

$$(x - y + 13)(x - y - 13)$$

$$\begin{aligned}
& (x + y - 2)(x + y - 4) \\
&= (x + y)^2 - 6(x + y) - 2 \times (-4) \\
&= x^2 + 2xy + y^2 - 6x - 6y + 8
\end{aligned}$$

$$\begin{aligned}
& (x - y - 6)^2 \\
&= (x - y)^2 - 2 \times 6 \times (x - y) + 6^2 \\
&= x^2 - 2xy + y^2 - 12x + 12y + 36
\end{aligned}$$

$$\begin{aligned}
& (a + b + 5)^2 \\
&= (a + b)^2 + 2 \times 5 \times (a + b) + 5^2 \\
&= a^2 + 2ab + b^2 + 10a + 10b + 25
\end{aligned}$$

$$\begin{aligned}
& (x + y - 1)(x + y - 3) \\
&= (x + y)^2 - 4(x + y) - 1 \times (-3) \\
&= x^2 + 2xy + y^2 - 4x - 4y + 3
\end{aligned}$$

$$\begin{aligned}
& (x - y - 9)(x - y - 2) \\
&= (x - y)^2 - 11(x - y) - 9 \times (-2) \\
&= x^2 - 2xy + y^2 - 11x + 11y + 18
\end{aligned}$$

$$\begin{aligned}
& (a + b - 4)(a + b + 6) \\
&= (a + b)^2 + 2(a + b) - 4 \times 6 \\
&= a^2 + 2ab + b^2 + 2a + 2b - 24
\end{aligned}$$

$$\begin{aligned}
& (x + y - 4)(x + y + 3) \\
&= (x + y)^2 - (x + y) - 4 \times 3 \\
&= x^2 + 2xy + y^2 - x - y - 12
\end{aligned}$$

$$\begin{aligned}
& (x + y + 2)(x + y - 9) \\
&= (x + y)^2 - 7(x + y) + 2 \times (-9) \\
&= x^2 + 2xy + y^2 - 7x - 7y - 18
\end{aligned}$$

$$\begin{aligned}
& (a + b - 7)^2 \\
&= (a + b)^2 - 2 \times 7 \times (a + b) + 7^2 \\
&= a^2 + 2ab + b^2 - 14a - 14b + 49
\end{aligned}$$

$$\begin{aligned}
& (x - y + 13)(x - y - 13) \\
&= (x - y)^2 - 13^2 \\
&= x^2 - 2xy + y^2 - 169
\end{aligned}$$

$$(x - y + 8)(x - y - 6)$$

$$(a - b - 5)(a - b + 8)$$

$$(a - b + 9)(a - b + 8)$$

$$(p - q + 5)^2$$

$$(p - q - 5)^2$$

$$(x - y + 5)(x - y - 3)$$

$$(x - y - 5)(x - y - 4)$$

$$(x + y - 8)(x + y - 4)$$

$$(x - y + 2)(x - y - 2)$$

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

$$\begin{aligned}
& (x - y + 8)(x - y - 6) \\
&= (x - y)^2 + 2(x - y) + 8 \times (-6) \\
&= x^2 - 2xy + y^2 + 2x - 2y - 48
\end{aligned}$$

$$\begin{aligned}
& (a - b - 5)(a - b + 8) \\
&= (a - b)^2 + 3(a - b) - 5 \times 8 \\
&= a^2 - 2ab + b^2 + 3a - 3b - 40
\end{aligned}$$

$$\begin{aligned}
& (a - b + 9)(a - b + 8) \\
&= (a - b)^2 + 17(a - b) + 9 \times 8 \\
&= a^2 - 2ab + b^2 + 17a - 17b + 72
\end{aligned}$$

$$\begin{aligned}
& (p - q + 5)^2 \\
&= (p - q)^2 + 2 \times 5 \times (p - q) + 5^2 \\
&= p^2 - 2pq + q^2 + 10p - 10q + 25
\end{aligned}$$

$$\begin{aligned}
& (p - q - 5)^2 \\
&= (p - q)^2 - 2 \times 5 \times (p - q) + 5^2 \\
&= p^2 - 2pq + q^2 - 10p + 10q + 25
\end{aligned}$$

$$\begin{aligned}
& (x - y + 5)(x - y - 3) \\
&= (x - y)^2 + 2(x - y) + 5 \times (-3) \\
&= x^2 - 2xy + y^2 + 2x - 2y - 15
\end{aligned}$$

$$\begin{aligned}
& (x - y - 5)(x - y - 4) \\
&= (x - y)^2 - 9(x - y) - 5 \times (-4) \\
&= x^2 - 2xy + y^2 - 9x + 9y + 20
\end{aligned}$$

$$\begin{aligned}
& (x + y - 8)(x + y - 4) \\
&= (x + y)^2 - 12(x + y) - 8 \times (-4) \\
&= x^2 + 2xy + y^2 - 12x - 12y + 32
\end{aligned}$$

$$\begin{aligned}
& (x - y + 2)(x - y - 2) \\
&= (x - y)^2 - 2^2 \\
&= x^2 - 2xy + y^2 - 4
\end{aligned}$$

$$\begin{aligned}
& (x + y - 5)^2 \\
&= (x + y)^2 - 2 \times 5 \times (x + y) + 5^2 \\
&= x^2 + 2xy + y^2 - 10x - 10y + 25
\end{aligned}$$

$$(a - b - 5)(a - b - 7)$$

$$(a - b + 7)(a - b + 5)$$

$$(x - y + 6)(x - y - 6)$$

$$(a + b - 8)(a + b + 7)$$

$$(a - b - 9)^2$$

$$(a - b - 8)(a - b + 6)$$

$$(x + y - 11)(x + y + 11)$$

$$(a + b - 6)(a + b - 2)$$

$$(a + b - 1)(a + b + 7)$$

$$(a - b - 8)(a - b - 3)$$

$$\begin{aligned} & (a - b - 5)(a - b - 7) \\ &= (a - b)^2 - 12(a - b) - 5 \times (-7) \\ &= a^2 - 2ab + b^2 - 12a + 12b + 35 \end{aligned}$$

$$\begin{aligned} & (a - b + 7)(a - b + 5) \\ &= (a - b)^2 + 12(a - b) + 7 \times 5 \\ &= a^2 - 2ab + b^2 + 12a - 12b + 35 \end{aligned}$$

$$\begin{aligned} & (x - y + 6)(x - y - 6) \\ &= (x - y)^2 - 6^2 \\ &= x^2 - 2xy + y^2 - 36 \end{aligned}$$

$$\begin{aligned} & (a + b - 8)(a + b + 7) \\ &= (a + b)^2 - (a + b) - 8 \times 7 \\ &= a^2 + 2ab + b^2 - a - b - 56 \end{aligned}$$

$$\begin{aligned} & (a - b - 9)^2 \\ &= (a - b)^2 - 2 \times 9 \times (a - b) + 9^2 \\ &= a^2 - 2ab + b^2 - 18a + 18b + 81 \end{aligned}$$

$$\begin{aligned} & (a - b - 8)(a - b + 6) \\ &= (a - b)^2 - 2(a - b) - 8 \times 6 \\ &= a^2 - 2ab + b^2 - 2a + 2b - 48 \end{aligned}$$

$$\begin{aligned} & (x + y - 11)(x + y + 11) \\ &= (x + y)^2 - 11^2 \\ &= x^2 + 2xy + y^2 - 121 \end{aligned}$$

$$\begin{aligned} & (a + b - 6)(a + b - 2) \\ &= (a + b)^2 - 8(a + b) - 6 \times (-2) \\ &= a^2 + 2ab + b^2 - 8a - 8b + 12 \end{aligned}$$

$$\begin{aligned} & (a + b - 1)(a + b + 7) \\ &= (a + b)^2 + 6(a + b) - 1 \times 7 \\ &= a^2 + 2ab + b^2 + 6a + 6b - 7 \end{aligned}$$

$$\begin{aligned} & (a - b - 8)(a - b - 3) \\ &= (a - b)^2 - 11(a - b) - 8 \times (-3) \\ &= a^2 - 2ab + b^2 - 11a + 11b + 24 \end{aligned}$$

$$(x + y - 16)(x + y + 16)$$

$$(x + y - 3)(x + y + 6)$$

$$(p + q + 7)^2$$

$$(x + y + 5)(x + y + 7)$$

$$(m - n - 3)^2$$

$$(p - q + 5)^2$$

$$(a + b - 4)(a + b + 3)$$

$$(a - b - 3)(a - b - 5)$$

$$(x + y - 3)(x + y - 7)$$

$$(x + y + 3)(x + y + 1)$$

$$\begin{aligned}
& (x + y - 16)(x + y + 16) \\
&= (x + y)^2 - 16^2 \\
&= x^2 + 2xy + y^2 - 256
\end{aligned}$$

$$\begin{aligned}
& (x + y - 3)(x + y + 6) \\
&= (x + y)^2 + 3(x + y) - 3 \times 6 \\
&= x^2 + 2xy + y^2 + 3x + 3y - 18
\end{aligned}$$

$$\begin{aligned}
& (p + q + 7)^2 \\
&= (p + q)^2 + 2 \times 7 \times (p + q) + 7^2 \\
&= p^2 + 2pq + q^2 + 14p + 14q + 49
\end{aligned}$$

$$\begin{aligned}
& (x + y + 5)(x + y + 7) \\
&= (x + y)^2 + 12(x + y) + 5 \times 7 \\
&= x^2 + 2xy + y^2 + 12x + 12y + 35
\end{aligned}$$

$$\begin{aligned}
& (m - n - 3)^2 \\
&= (m - n)^2 - 2 \times 3 \times (m - n) + 3^2 \\
&= m^2 - 2mn + n^2 - 6m + 6n + 9
\end{aligned}$$

$$\begin{aligned}
& (p - q + 5)^2 \\
&= (p - q)^2 + 2 \times 5 \times (p - q) + 5^2 \\
&= p^2 - 2pq + q^2 + 10p - 10q + 25
\end{aligned}$$

$$\begin{aligned}
& (a + b - 4)(a + b + 3) \\
&= (a + b)^2 - (a + b) - 4 \times 3 \\
&= a^2 + 2ab + b^2 - a - b - 12
\end{aligned}$$

$$\begin{aligned}
& (a - b - 3)(a - b - 5) \\
&= (a - b)^2 - 8(a - b) - 3 \times (-5) \\
&= a^2 - 2ab + b^2 - 8a + 8b + 15
\end{aligned}$$

$$\begin{aligned}
& (x + y - 3)(x + y - 7) \\
&= (x + y)^2 - 10(x + y) - 3 \times (-7) \\
&= x^2 + 2xy + y^2 - 10x - 10y + 21
\end{aligned}$$

$$\begin{aligned}
& (x + y + 3)(x + y + 1) \\
&= (x + y)^2 + 4(x + y) + 3 \times 1 \\
&= x^2 + 2xy + y^2 + 4x + 4y + 3
\end{aligned}$$

$$(a + b - 4)(a + b + 5)$$

$$(m + n + 7)^2$$

$$(x + y + 9)(x + y + 3)$$

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

$$(a - b + 2)(a - b - 2)$$

$$(x - y - 1)(x - y - 8)$$

$$(a + b + 1)(a + b - 1)$$

$$(p + q - 8)^2$$

$$(p - q + 2)^2$$

$$(a - b - 7)^2$$

$$\begin{aligned} & (a + b - 4)(a + b + 5) \\ &= (a + b)^2 + (a + b) - 4 \times 5 \\ &= a^2 + 2ab + b^2 + a + b - 20 \end{aligned}$$

$$\begin{aligned} & (m + n + 7)^2 \\ &= (m + n)^2 + 2 \times 7 \times (m + n) + 7^2 \\ &= m^2 + 2mn + n^2 + 14m + 14n + 49 \end{aligned}$$

$$\begin{aligned} & (x + y + 9)(x + y + 3) \\ &= (x + y)^2 + 12(x + y) + 9 \times 3 \\ &= x^2 + 2xy + y^2 + 12x + 12y + 27 \end{aligned}$$

$$\begin{aligned} & (a + b + 3)(a + b - 7) \\ &= (a + b)^2 - 4(a + b) + 3 \times (-7) \\ &= a^2 + 2ab + b^2 - 4a - 4b - 21 \end{aligned}$$

$$\begin{aligned} & (a - b + 2)(a - b - 2) \\ &= (a - b)^2 - 2^2 \\ &= a^2 - 2ab + b^2 - 4 \end{aligned}$$

$$\begin{aligned} & (x - y - 1)(x - y - 8) \\ &= (x - y)^2 - 9(x - y) - 1 \times (-8) \\ &= x^2 - 2xy + y^2 - 9x + 9y + 8 \end{aligned}$$

$$\begin{aligned} & (a + b + 1)(a + b - 1) \\ &= (a + b)^2 - 1^2 \\ &= a^2 + 2ab + b^2 - 1 \end{aligned}$$

$$\begin{aligned} & (p + q - 8)^2 \\ &= (p + q)^2 - 2 \times 8 \times (p + q) + 8^2 \\ &= p^2 + 2pq + q^2 - 16p - 16q + 64 \end{aligned}$$

$$\begin{aligned} & (p - q + 2)^2 \\ &= (p - q)^2 + 2 \times 2 \times (p - q) + 2^2 \\ &= p^2 - 2pq + q^2 + 4p - 4q + 4 \end{aligned}$$

$$\begin{aligned} & (a - b - 7)^2 \\ &= (a - b)^2 - 2 \times 7 \times (a - b) + 7^2 \\ &= a^2 - 2ab + b^2 - 14a + 14b + 49 \end{aligned}$$