

**Ejercicio 1**

Desarrolla y luego reduce las siguientes expresiones.

$$A = (10x + 2)(-7x + 10)$$

$$B = (5x - 4)^2$$

$$C = (10x - 2)(10x + 2)$$

$$D = (6x + 9)^2$$

$$E = (2x - 6)(2x + 6) - (-2x + 1)(-4x + 4)$$

$$F = -(6x + 8)^2 + (8x - 6)^2$$

**Solución del ejercicio 1**

$$A = -70x^2 + 86x + 20$$

$$B = 25x^2 - 40x + 16$$

$$C = 100x^2 - 4$$

$$D = 36x^2 + 108x + 81$$

$$E = -4x^2 + 12x - 40$$

$$F = 28x^2 - 192x - 28$$

[Corrección](#)

**Ejercicio 2**

Desarrolla y luego reduce las siguientes expresiones.

$$A = (3x + 9)^2$$

$$B = (-2x - 4)(10x - 10)$$

$$C = (5x - 2)(5x + 2)$$

$$D = (x - 1)^2$$

$$E = -(6x - 2)(6x + 2) - (2x - 5)^2$$

$$F = (x + 3)^2 - (-3x - 4)(-4x + 8)$$

**Solución del ejercicio 2**

$$A = 9x^2 + 54x + 81$$

$$B = -20x^2 - 20x + 40$$

$$C = 25x^2 - 4$$

$$D = x^2 - 2x + 1$$

$$E = -40x^2 + 20x - 21$$

$$F = -11x^2 + 14x + 41$$

[Corrección](#)

**Ejercicio 3**

Desarrolla y luego reduce las siguientes expresiones.

$$A = (2x + 6)(6x + 5)$$

$$B = (7x + 1)^2$$

$$C = (5x + 9)(5x - 9)$$

$$D = (9x - 10)^2$$

$$E = (8x + 4)^2 - (8x - 1)^2$$

$$F = (3x - 1)(3x + 1) + (-9x - 8)(x + 9)$$

**Solución del ejercicio 3**

$$A = 12x^2 + 46x + 30$$

$$B = 49x^2 + 14x + 1$$

$$C = 25x^2 - 81$$

$$D = 81x^2 - 180x + 100$$

$$E = 80x + 15$$

$$F = -89x - 73$$

[Corrección](#)

**Ejercicio 4**

Desarrolla y luego reduce las siguientes expresiones.

$$A = (3x + 6)^2$$

$$B = (6x - 8)^2$$

$$C = (-x + 3)(6x - 7)$$

$$D = (3x + 7)(3x - 7)$$

$$E = -(4x - 2)^2 - (9x + 9)(9x - 9)$$

$$F = -(x + 8)^2 - (7x + 4)(-4x + 1)$$

**Solución del ejercicio 4**

$$A = 9x^2 + 36x + 36$$

$$B = 36x^2 - 96x + 64$$

$$C = -6x^2 + 25x - 21$$

$$D = 9x^2 - 49$$

$$E = -97x^2 + 16x + 77$$

$$F = 27x^2 - 7x - 68$$

Corrección

**Ejercicio 5**

Desarrolla y luego reduce las siguientes expresiones.

$$A = (10x - 9)^2$$

$$B = (9x - 4)(9x + 4)$$

$$C = (4x + 7)^2$$

$$D = (-x + 7)(-4x - 1)$$

$$E = -(9x - 3)^2 + (x + 2)(x - 2)$$

$$F = (-3x - 8)(4x - 1) + (x + 10)^2$$

**Solución del ejercicio 5**

$$A = 100x^2 - 180x + 81$$

$$B = 81x^2 - 16$$

$$C = 16x^2 + 56x + 49$$

$$D = 4x^2 - 27x - 7$$

$$E = -80x^2 + 54x - 13$$

$$F = -11x^2 - 9x + 108$$

Corrección

**Ejercicio 6**

Desarrolla y luego reduce las siguientes expresiones.

$$A = (7x - 10)(7x + 10)$$

$$B = (2x + 7)^2$$

$$C = (-6x - 10)(5x + 6)$$

$$D = (5x - 4)^2$$

$$E = -(9x + 7)^2 - (-2x - 3)(-3x + 9)$$

$$F = -(x - 4)(x + 4) - (8x - 6)^2$$

**Solución del ejercicio 6**

$$A = 49x^2 - 100$$

$$B = 4x^2 + 28x + 49$$

$$C = -30x^2 - 86x - 60$$

$$D = 25x^2 - 40x + 16$$

$$E = -87x^2 - 117x - 22$$

$$F = -65x^2 + 96x - 20$$

Corrección

**Ejercicio 7**

Desarrolla y luego reduce las siguientes expresiones.

$$A = (9x - 9)(9x + 9)$$

$$B = (2x - 1)^2$$

$$C = (-x - 9)(5x - 7)$$

$$D = (10x + 7)^2$$

$$E = -(5x + 7)(5x - 7) + (6x + 6)^2$$

$$F = -(6x - 4)^2 - (5x - 6)(7x - 7)$$

**Solución del ejercicio 7**

$$A = 81x^2 - 81$$

$$B = 4x^2 - 4x + 1$$

$$C = -5x^2 - 38x + 63$$

$$D = 100x^2 + 140x + 49$$

$$E = 11x^2 + 72x + 85$$

$$F = -71x^2 + 125x - 58$$

Corrección

**Ejercicio 8**

Desarrolla y luego reduce las siguientes expresiones.

$$A = (-4x - 7)(-5x + 8)$$

$$B = (7x - 4)^2$$

$$C = (10x + 8)^2$$

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

$$E = -(4x + 5)^2 - (7x - 1)^2$$

$$F = (-9x - 7)(-8x + 3) + (7x + 8)(7x - 8)$$

### Solución del ejercicio 8

$$A = 20x^2 + 3x - 56$$

$$B = 49x^2 - 56x + 16$$

$$C = 100x^2 + 160x + 64$$

$$D = 16x^2 - 25$$

$$E = -65x^2 - 26x - 26$$

$$F = 121x^2 + 29x - 85$$

Corrección

### Ejercicio 9

Desarrolla y luego reduce las siguientes expresiones.

$$A = (5x + 2)(5x - 2)$$

$$B = (2x + 9)^2$$

$$C = (3x - 7)^2$$

$$D = (5x - 3)(-4x - 3)$$

$$E = (2x - 5)(-x + 3) + (8x - 2)^2$$

$$F = -(10x + 10)^2 + (9x - 2)(9x + 2)$$

### Solución del ejercicio 9

$$A = 25x^2 - 4$$

$$B = 4x^2 + 36x + 81$$

$$C = 9x^2 - 42x + 49$$

$$D = -20x^2 - 3x + 9$$

$$E = 62x^2 - 21x - 11$$

$$F = -19x^2 - 200x - 104$$

Corrección

### Ejercicio 10

Desarrolla y luego reduce las siguientes expresiones.

$$A = (7x + 10)^2$$

$$B = (7x - 10)^2$$

$$C = (5x + 9)(5x - 9)$$

$$D = (-4x - 1)(-8x - 9)$$

$$E = (9x - 4)(5x - 1) + (8x - 3)(8x + 3)$$

$$F = (x - 4)^2 + (9x + 2)^2$$

### Solución del ejercicio 10

$$A = 49x^2 + 140x + 100$$

$$B = 49x^2 - 140x + 100$$

$$C = 25x^2 - 81$$

$$D = 32x^2 + 44x + 9$$

$$E = 109x^2 - 29x - 5$$

$$F = 82x^2 + 28x + 20$$

Corrección

**Corrección del ejercicio 1**

Desarrolla y luego reduce las siguientes expresiones.

$$A = (10x + 2)(-7x + 10)$$

$$A = -70x^2 + 100x + (-14x) + 20$$

$$A = -70x^2 + 86x + 20$$

$$B = (5x - 4)^2$$

$$B = (5x)^2 - 2 \cdot 5x \cdot 4 + 4^2$$

$$B = 25x^2 - 40x + 16$$

$$C = (10x - 2)(10x + 2)$$

$$C = (10x)^2 - 2^2$$

$$C = 100x^2 - 4$$

$$D = (6x + 9)^2$$

$$D = (6x)^2 + 2 \cdot 6x \cdot 9 + 9^2$$

$$D = 36x^2 + 108x + 81$$

$$E = (2x - 6)(2x + 6) - (-2x + 1)(-4x + 4)$$

$$E = (2x)^2 - 6^2 - (8x^2 + (-8x) + (-4x) + 4)$$

$$E = 4x^2 - 36 - (8x^2 - 12x + 4)$$

$$E = 4x^2 - 36 - 8x^2 + 12x - 4$$

$$E = -4x^2 + 12x - 40$$

$$F = -(6x + 8)^2 + (8x - 6)^2$$

$$F = -((6x)^2 + 2 \cdot 6x \cdot 8 + 8^2) + (8x)^2 - 2 \cdot 8x \cdot 6 + 6^2$$

$$F = -(36x^2 + 96x + 64) + 64x^2 - 96x + 36$$

$$F = -36x^2 - 96x - 64 + 64x^2 - 96x + 36$$

$$F = 28x^2 - 192x - 28$$

[Volver al enunciado](#)

**Corrección del ejercicio 2**

Desarrolla y luego reduce las siguientes expresiones.

$$A = (3x + 9)^2$$

$$A = (3x)^2 + 2 \cdot 3x \cdot 9 + 9^2$$

$$A = 9x^2 + 54x + 81$$

$$B = (-2x - 4)(10x - 10)$$

$$B = -20x^2 + 20x + (-40x) + 40$$

$$B = -20x^2 - 20x + 40$$

$$C = (5x - 2)(5x + 2)$$

$$C = (5x)^2 - 2^2$$

$$C = 25x^2 - 4$$

$$D = (x - 1)^2$$

$$D = x^2 - 2 \cdot x \cdot 1 + 1^2$$

$$D = x^2 - 2x + 1$$

$$E = -(6x - 2)(6x + 2) - (2x - 5)^2$$

$$E = -((6x)^2 - 2^2) - ((2x)^2 - 2 \cdot 2x \cdot 5 + 5^2)$$

$$E = -(36x^2 - 4) - (4x^2 - 20x + 25)$$

$$E = -36x^2 + 4 - 4x^2 + 20x - 25$$

$$E = -40x^2 + 20x - 21$$

$$F = (x + 3)^2 - (-3x - 4)(-4x + 8)$$

$$F = x^2 + 2 \cdot x \cdot 3 + 3^2 - (12x^2 + (-24x) + 16x + (-32))$$

$$F = x^2 + 6x + 9 - (12x^2 - 8x - 32)$$

$$F = x^2 + 6x + 9 - 12x^2 + 8x + 32$$

$$F = -11x^2 + 14x + 41$$

[Volver al enunciado](#)**Corrección del ejercicio 3**

Desarrolla y luego reduce las siguientes expresiones.

$$A = (2x + 6)(6x + 5)$$

$$A = 12x^2 + 10x + 36x + 30$$

$$A = 12x^2 + 46x + 30$$

$$B = (7x + 1)^2$$

$$B = (7x)^2 + 2 \cdot 7x \cdot 1 + 1^2$$

$$B = 49x^2 + 14x + 1$$

$$C = (5x + 9)(5x - 9)$$

$$C = (5x)^2 - 9^2$$

$$C = 25x^2 - 81$$

$$D = (9x - 10)^2$$

$$D = (9x)^2 - 2 \cdot 9x \cdot 10 + 10^2$$

$$D = 81x^2 - 180x + 100$$

$$E = (8x + 4)^2 - (8x - 1)^2$$

$$E = (8x)^2 + 2 \cdot 8x \cdot 4 + 4^2 - ((8x)^2 - 2 \cdot 8x \cdot 1 + 1^2)$$

$$E = 64x^2 + 64x + 16 - (64x^2 - 16x + 1)$$

$$E = 64x^2 + 64x + 16 - 64x^2 + 16x - 1$$

$$E = 80x + 15$$

$$F = (3x - 1)(3x + 1) + (-9x - 8)(x + 9)$$

$$F = (3x)^2 - 1^2 + -9x^2 + (-81x) + (-8x) + (-72)$$

$$F = 9x^2 - 1 - 9x^2 - 89x - 72$$

$$F = -89x - 73$$

[Volver al enunciado](#)**Corrección del ejercicio 4**

Desarrolla y luego reduce las siguientes expresiones.

$$A = (3x + 6)^2$$

$$A = (3x)^2 + 2 \cdot 3x \cdot 6 + 6^2$$

$$A = 9x^2 + 36x + 36$$

$$B = (6x - 8)^2$$

$$B = (6x)^2 - 2 \cdot 6x \cdot 8 + 8^2$$

$$B = 36x^2 - 96x + 64$$

$$C = (-x + 3)(6x - 7)$$

$$C = -6x^2 + 7x + 18x + (-21)$$

$$C = -6x^2 + 25x - 21$$

$$D = (3x + 7)(3x - 7)$$

$$D = (3x)^2 - 7^2$$

$$D = 9x^2 - 49$$

$$E = -(4x - 2)^2 - (9x + 9)(9x - 9)$$

$$E = -((4x)^2 - 2 \cdot 4x \cdot 2 + 2^2) - ((9x)^2 - 9^2)$$

$$E = -(16x^2 - 16x + 4) - (81x^2 - 81)$$

$$E = -16x^2 + 16x - 4 - 81x^2 + 81$$

$$E = -97x^2 + 16x + 77$$

$$F = -(x + 8)^2 - (7x + 4)(-4x + 1)$$

$$F = -(x^2 + 2 \cdot x \cdot 8 + 8^2) - (-28x^2 + 7x + (-16x) + 4)$$

$$F = -(x^2 + 16x + 64) - (-28x^2 - 9x + 4)$$

$$F = -x^2 - 16x - 64 + 28x^2 + 9x - 4$$

$$F = 27x^2 - 7x - 68$$

[Volver al enunciado](#)**Corrección del ejercicio 5**

Desarrolla y luego reduce las siguientes expresiones.

$$A = (10x - 9)^2$$

$$A = (10x)^2 - 2 \cdot 10x \cdot 9 + 9^2$$

$$A = 100x^2 - 180x + 81$$

$$B = (9x - 4)(9x + 4)$$

$$B = (9x)^2 - 4^2$$

$$B = 81x^2 - 16$$

$$C = (4x + 7)^2$$

$$C = (4x)^2 + 2 \cdot 4x \cdot 7 + 7^2$$

$$C = 16x^2 + 56x + 49$$

$$D = (-x + 7)(-4x - 1)$$

$$D = 4x^2 + x + (-28x) + (-7)$$

$$D = 4x^2 - 27x - 7$$

$$E = -(9x - 3)^2 + (x + 2)(x - 2)$$

$$E = -((9x)^2 - 2 \cdot 9x \cdot 3 + 3^2) + x^2 - 2^2$$

$$E = -(81x^2 - 54x + 9) + x^2 - 4$$

$$E = -81x^2 + 54x - 9 + x^2 - 4$$

$$E = -80x^2 + 54x - 13$$

$$F = (-3x - 8)(4x - 1) + (x + 10)^2$$

$$F = -12x^2 + 3x + (-32x) + 8 + x^2 + 2 \cdot x \cdot 10 + 10^2$$

$$F = -12x^2 - 29x + 8 + x^2 + 20x + 100$$

$$F = -11x^2 - 9x + 108$$

[Volver al enunciado](#)**Corrección del ejercicio 6**

Desarrolla y luego reduce las siguientes expresiones.

$$A = (7x - 10)(7x + 10)$$

$$A = (7x)^2 - 10^2$$

$$A = 49x^2 - 100$$

$$B = (2x + 7)^2$$

$$B = (2x)^2 + 2 \cdot 2x \cdot 7 + 7^2$$

$$B = 4x^2 + 28x + 49$$

$$C = (-6x - 10)(5x + 6)$$

$$C = -30x^2 + (-36x) + (-50x) + (-60)$$

$$C = -30x^2 - 86x - 60$$

$$D = (5x - 4)^2$$

$$D = (5x)^2 - 2 \cdot 5x \cdot 4 + 4^2$$

$$D = 25x^2 - 40x + 16$$

$$E = -(9x + 7)^2 - (-2x - 3)(-3x + 9)$$

$$E = -((9x)^2 + 2 \cdot 9x \cdot 7 + 7^2) - (6x^2 + (-18x) + 9x + (-27))$$

$$E = -(81x^2 + 126x + 49) - (6x^2 - 9x - 27)$$

$$E = -81x^2 - 126x - 49 - 6x^2 + 9x + 27$$

$$E = -87x^2 - 117x - 22$$

$$F = -(x - 4)(x + 4) - (8x - 6)^2$$

$$F = -(x^2 - 4^2) - ((8x)^2 - 2 \cdot 8x \cdot 6 + 6^2)$$

$$F = -(x^2 - 16) - (64x^2 - 96x + 36)$$

$$F = -x^2 + 16 - 64x^2 + 96x - 36$$

$$F = -65x^2 + 96x - 20$$

[Volver al enunciado](#)**Corrección del ejercicio 7**

Desarrolla y luego reduce las siguientes expresiones.

$$A = (9x - 9)(9x + 9)$$

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

$$A = 81x^2 - 81$$

$$B = (2x - 1)^2$$

$$B = (2x)^2 - 2 \cdot 2x \cdot 1 + 1^2$$

$$B = 4x^2 - 4x + 1$$

$$C = (-x - 9)(5x - 7)$$

$$C = -5x^2 + 7x + (-45x) + 63$$

$$C = -5x^2 - 38x + 63$$

$$D = (10x + 7)^2$$

$$D = (10x)^2 + 2 \cdot 10x \cdot 7 + 7^2$$

$$D = 100x^2 + 140x + 49$$

$$E = -(5x + 7)(5x - 7) + (6x + 6)^2$$

$$E = -((5x)^2 - 7^2) + (6x)^2 + 2 \cdot 6x \cdot 6 + 6^2$$

$$E = -(25x^2 - 49) + 36x^2 + 72x + 36$$

$$E = -25x^2 + 49 + 36x^2 + 72x + 36$$

$$E = 11x^2 + 72x + 85$$

$$F = -(6x - 4)^2 - (5x - 6)(7x - 7)$$

$$F = -((6x)^2 - 2 \cdot 6x \cdot 4 + 4^2) - (35x^2 + (-35x) + (-42x) + 42)$$

$$F = -(36x^2 - 48x + 16) - (35x^2 - 77x + 42)$$

$$F = -36x^2 + 48x - 16 - 35x^2 + 77x - 42$$

$$F = -71x^2 + 125x - 58$$

[Volver al enunciado](#)**Corrección del ejercicio 8**

Desarrolla y luego reduce las siguientes expresiones.

$$A = (-4x - 7)(-5x + 8)$$

$$A = 20x^2 + (-32x) + 35x + (-56)$$

$$A = 20x^2 + 3x - 56$$

$$B = (7x - 4)^2$$

$$B = (7x)^2 - 2 \cdot 7x \cdot 4 + 4^2$$

$$B = 49x^2 - 56x + 16$$

$$C = (10x + 8)^2$$

$$C = (10x)^2 + 2 \cdot 10x \cdot 8 + 8^2$$

$$C = 100x^2 + 160x + 64$$

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

$$D = (4x)^2 - 5^2$$

$$D = 16x^2 - 25$$

$$E = -(4x + 5)^2 - (7x - 1)^2$$

$$E = -((4x)^2 + 2 \cdot 4x \cdot 5 + 5^2) - ((7x)^2 - 2 \cdot 7x \cdot 1 + 1^2)$$

$$E = -(16x^2 + 40x + 25) - (49x^2 - 14x + 1)$$

$$E = -16x^2 - 40x - 25 - 49x^2 + 14x - 1$$

$$E = -65x^2 - 26x - 26$$

$$F = (-9x - 7)(-8x + 3) + (7x + 8)(7x - 8)$$

$$F = 72x^2 + (-27x) + 56x + (-21) + (7x)^2 - 8^2$$

$$F = 72x^2 + 29x - 21 + 49x^2 - 64$$

$$F = 121x^2 + 29x - 85$$

[Volver al enunciado](#)**Corrección del ejercicio 9**

Desarrolla y luego reduce las siguientes expresiones.

$$A = (5x + 2)(5x - 2)$$

$$A = (5x)^2 - 2^2$$

$$A = 25x^2 - 4$$

$$B = (2x + 9)^2$$

$$B = (2x)^2 + 2 \cdot 2x \cdot 9 + 9^2$$

$$B = 4x^2 + 36x + 81$$

$$C = (3x - 7)^2$$

$$C = (3x)^2 - 2 \cdot 3x \cdot 7 + 7^2$$

$$C = 9x^2 - 42x + 49$$

$$D = (5x - 3)(-4x - 3)$$

$$D = -20x^2 + (-15x) + 12x + 9$$

$$D = -20x^2 - 3x + 9$$

$$E = (2x - 5)(-x + 3) + (8x - 2)^2$$

$$E = -2x^2 + 6x + 5x + (-15) + (8x)^2 - 2 \cdot 8x \cdot 2 + 2^2$$

$$E = -2x^2 + 11x - 15 + 64x^2 - 32x + 4$$

$$E = 62x^2 - 21x - 11$$

$$F = -(10x + 10)^2 + (9x - 2)(9x + 2)$$

$$F = -((10x)^2 + 2 \cdot 10x \cdot 10 + 10^2) + (9x)^2 - 2^2$$

$$F = -(100x^2 + 200x + 100) + 81x^2 - 4$$

$$F = -100x^2 - 200x - 100 + 81x^2 - 4$$

$$F = -19x^2 - 200x - 104$$

[Volver al enunciado](#)**Corrección del ejercicio 10**

Desarrolla y luego reduce las siguientes expresiones.

$$A = (7x + 10)^2$$

$$A = (7x)^2 + 2 \cdot 7x \cdot 10 + 10^2$$

$$A = 49x^2 + 140x + 100$$

$$B = (7x - 10)^2$$

$$B = (7x)^2 - 2 \cdot 7x \cdot 10 + 10^2$$

$$B = 49x^2 - 140x + 100$$

$$C = (5x + 9)(5x - 9)$$

$$C = (5x)^2 - 9^2$$

$$C = 25x^2 - 81$$

$$D = (-4x - 1)(-8x - 9)$$

$$D = 32x^2 + 36x + 8x + 9$$

$$D = 32x^2 + 44x + 9$$

$$E = (9x - 4)(5x - 1) + (8x - 3)(8x + 3)$$

$$E = 45x^2 + (-9x) + (-20x) + 4 + (8x)^2 - 3^2$$

$$E = 45x^2 - 29x + 4 + 64x^2 - 9$$

$$E = 109x^2 - 29x - 5$$

$$F = (x - 4)^2 + (9x + 2)^2$$

$$F = x^2 - 2 \cdot x \cdot 4 + 4^2 + (9x)^2 + 2 \cdot 9x \cdot 2 + 2^2$$

$$F = x^2 - 8x + 16 + 81x^2 + 36x + 4$$

$$F = 82x^2 + 28x + 20$$

[Volver al enunciado](#)