

Fiche : Factorisation : Niveau C

C1	$9x^2 - 16 + (3x + 4)(3x - 2)$
C2	$(4x - 1)^2 - (x - 5)^2$
C3	$(7x - 5)(3x + 2) - 6(3x + 2)(x + 3)$
C4	$(2x + 3)(2x - 1) + 4x^2 + 12x + 9$
C5	$(6x - 1)^2 - (7x + 2)^2$

C6	$4x^2 - 9 + (2x + 3)(x - 5)$
C7	$(x + 4)(-2x + 1) - 3(x + 4)^2$
C8	$(x + 5)^2 - (x + 5)$
C9	$(2x - 3)^2 - 64x^2$
C10	$100x^2 + 100x + 25 - (10x + 5)(x + 7)$

C11	$(-2x + 3)^2 - (x - 9)^2$
C12	$(x + 3)^2 - 25(3x + 4)^2$
C13	$x^2 - 9 - (2x + 5)(x - 3) + 5x - 15$
C14	$x^2 - 16 + (x + 4)^2$
C15	$(2x + 7)^2 + 10x + 35$

Fiche : Factorisation : Réponses : Niveau C

C1	$9x^2 - 16 + (3x + 4)(3x - 2) = (3x)^2 - 4^2 + (3x + 4)(3x - 2) =$ $(3x-4)(3x+4) + (3x+4)(3x-2) = (3x + 4)[3x-4 + 3x-2] = (3x+4)(6x-6)$
C2	$(4x - 1)^2 - (x - 5)^2 = [(4x-1) - (x-5)][(4x-1) + (x-5)]$ $= (4x - 1 - x + 5)(4x - 1 + x - 5) = (3x + 4)(5x - 6)$
C3	$(7x - 5)(3x + 2) - 6(3x + 2)(x + 3) = (7x-5)(\underline{3x+2}) - 6(\underline{3x+2})(x+3)$ $= (3x+2)[7x-5 - 6(x+3)] = (3x+2)(7x-5 - 6x-18) = (3x + 2)(x - 23)$
C4	$(2x + 3)(2x - 1) + 4x^2 + 12x + 9 = (2x+3)(2x-1) + (2x)^2 + 2 \times 2x \times 3 + 3^2$ $= (2x + 3)(2x - 1) + (2x + 3)^2 = (\underline{2x+3})(2x - 1) + (\underline{2x+3})(2x + 3)$ $= (2x + 3)[2x - 1 + 2x + 3] = (2x + 3)(4x + 2)$
C5	$(6x - 1)^2 - (7x + 2)^2 = [6x-1 - (7x+2)][6x-1 + 7x+2]$ $= (6x-1-7x-2)(6x-1+7x+2) = (-x-3)(13x+1)$

C6	$4x^2 - 9 + (2x + 3)(x - 5) = (2x)^2 - 3^2 + (2x + 3)(x - 5) =$ $(\underline{2x+3})(2x-3) + (\underline{2x+3})(x - 5) = (2x+3)[2x-3+x-5] = (2x + 3)(3x - 8)$
C7	$(x + 4)(-2x + 1) - 3(x + 4)^2 = (\underline{x+4})(-2x + 1) - 3(\underline{x+4})(x + 4)$ $= (x + 4)[-2x + 1 - 3(x+4)] = (x + 4)(-2x+1-3x-12) = (x+4)(-5x-11)$
C8	$(x + 5)^2 - (x + 5) = (\underline{x+5})(x + 5) - 1 \times (\underline{x+5})$ $= (x + 5)[x + 5 - 1] = (x + 5)(x + 4)$
C9	$(2x - 3)^2 - 64x^2 = (2x - 3)^2 - (8x)^2 = [2x-3 - 8x][2x-3 + 8x]$ $= (-6x - 3)(10x - 3)$
C10	$100x^2 + 100x + 25 - (10x+5)(x+7) = (10x)^2 + 2 \times 10x \times 5 + 5^2 - (10x+5)(x+7)$ $= (10x+5)^2 - (10x + 5)(x + 7) = (\underline{10x+5})(10x+5) - (\underline{10x+5})(x+7)$ $= (10x + 5)[10x+5 - (x+7)] = (10x+5)(10x+5 - x-7) = (10x+5)(9x-2)$

C11	$(-2x + 3)^2 - (x - 9)^2 = [-2x+3 - (x-9)][-2x+3 + x-9]$ $= (-2x + 3 - x + 9)(-2x + 3 + x - 9) = (-3x + 12)(-x - 6)$
C12	$(x + 3)^2 - 25(3x + 4)^2 = (x+3)^2 - 5^2 \times (3x+4)^2 = (x+3)^2 - [5 \times (3x + 4)]^2$ $= (x+3)^2 - [15x + 20]^2 = [x+3 - (15x+20)][x+3 + 15x+20]$ $= (x + 3 - 15x - 20)(x + 3 + 15x + 20) = (-14x - 17)(16x + 23)$
C13	$x^2 - 9 - (2x + 5)(x - 3) + 5x - 15 = x^2 - 3^2 - (2x+5)(x-3) + 5 \times (x-3)$ $= (\underline{x-3})(x+3) - (2x+5)(\underline{x-3}) + 5 \times (\underline{x-3}) = (x-3)[x+3 - (2x+5) + 5]$ $= (x - 3)(x+3 - 2x-5 + 5) = (x-3)(-x+3) = (x - 3)(-1)(x - 3) = -(x-3)^2$
C14	$x^2 - 16 + (x + 4)^2 = x^2 - 4^2 + (x+4)(x+4) = (x-4)(x+4) + (x+4)(x+4)$ $= (x + 4)[x - 4 + x + 4] = (x + 4)(2x) = 2x(x - 4)$
C15	$(2x + 7)^2 + 10x + 35 = (2x + 7)(\underline{2x+7}) + 5 \times (\underline{2x+7})$ $= (2x + 7)[2x + 7 + 5] = (2x + 7)(2x + 12)$