

Factoriser :

a) $A = (2x - 5)^2 - (3x - 1)^2$

On sait que $a^2 - b^2 = (a - b)(a + b)$:

$$A = (2x - 5)^2 - (3x - 1)^2 = [(2x - 5) - (3x - 1)][(2x - 5) + (3x - 1)] = (2x - 5 - 3x + 1)(2x - 5 + 3x - 1) ,$$

$$A = (-x - 4)(5x - 6) = -(x + 4)(5x - 6) .$$

b) $B = 9(x + 3)^2 - (2x - 1)^2$

$$B = 9(x + 3)^2 - (2x - 1)^2 = 3^2(x + 3)^2 - (2x - 1)^2 = [3(x + 3)]^2 - (2x - 1)^2 = (3x + 9)^2 - (2x - 1)^2 ,$$

$$B = [(3x + 9) - (2x - 1)][(3x + 9) + (2x - 1)] = (3x + 9 - 2x + 1)(3x + 9 + 2x - 1) = (x + 10)(5x + 8) .$$

c) $C = 4(3x + 2)^2 - 9(x + 1)^2$

$$C = 4(3x + 2)^2 - 9(x + 1)^2 = 2^2(3x + 2)^2 - 3^2(x + 1)^2 = [2(3x + 2)]^2 - [3(x + 1)]^2 = (6x + 4)^2 - (3x + 3)^2 ,$$

$$C = [(6x + 4) - (3x + 3)][(6x + 4) + (3x + 3)] = (6x + 4 - 3x - 3)(6x + 4 + 3x + 3) = (3x + 1)(9x + 7) .$$