

$$1) \quad 4(x+3) - 2(8x-1) = 4x + 12 - 16x + 2 = -12x + 14 = 2(-6x + 7)$$

$$2) \quad (5x+7)(3-x) = 15x + 21 - 5x^2 - 7x = -5x^2 + 8x + 21$$

$$3) \quad (2x+3)(x-5) - (4x-1)(x-9) = 2x^2 - 10x + 3x - 15 - (4x^2 - x - 36x + 9) = \\ = 2x^2 - 7x - 15 - 4x^2 + 37x - 9 = -2x^2 + 30x - 24 = 2(x^2 + 15x - 12)$$

$$4) \quad -5(x-7) + (4x-2)(7-3x) = -5x + 35 + 28x - 14 - 12x^2 + 6x = -12x^2 + 29x + 21$$

$$5) \quad (x+3)(x+5) - (-1+x)(x+9) = x^2 - 5x + 3x - 15 - (-x + 9 + x^2 - 9x) = \\ = x^2 - 2x - 15 + 10x - x^2 - 9 = 8x - 24 = 8(x-3)$$

$$6) \quad (5x-1)(5x-2) - (-7+2x)(-4+3x) = 25x^2 - 10x - 5x + 2 - (28 - 21x + 8x + 6x^2) = \\ = 25x^2 - 15x + 2 - (6x^2 - 13x + 28) = 25x^2 - 15x + 2 - 6x^2 + 13x - 28 = 19x^2 - 2x - 26$$
