

Разложить на множители методом расщепления

1)

$$14x^2 + 2xy + 3xy - y^2 + 6xz + 3yz = 2x(7x+y+3z) + y(3x-y+3z)$$

$$14x^2 + 5xy - y^2 + 6xz + 3yz = 14x^2 + 7xy - 2xy - y^2 + 6xz + 3yz = \\ 7x(2x+y) - y(2x+y) + 3z(2x+y) = (2x+y)(7x-y+3z)$$

$$2) -15x^2 + 41xy - 3xz - 14y^2 + 7yz = -15x^2 + 27xy + 14xy - 3xz - 14y^2 + 7yz = 3x(-5x+9y-z) + 7y(2x-2y+z) \\ -15x^2 + 41xy - 3xz - 14y^2 + 7yz = -15x^2 + 35xy + 6xy - 3xz - 14y^2 + 7yz = 3x(-5x+2y-z) + 7y(5x-2y+z) = \\ = 3x(-5x+2y-z) - 7y(-5x+2y-z) = (-5x+2y-z)(3x-7y)$$

$$x^2 + 5x - 6 = x^2 + 2x + 3x - 6 = x(x+2) + 3(x-2)$$

$$x^2 + 5x - 6 = x^2 + 6x - x - 6 = x(x-1) + 6(x-1) = (x-1)(x+6)$$