

разложить на  
множители

$$(a+b)^2 = a^2 + 2ab + b^2$$

$$(a-b)^2 = a^2 - 2ab + b^2$$

$$(a+b)(a-b) = a^2 - b^2$$

$$x^2 + 4x - y^2 + 6y - 5$$

$$\begin{aligned} x^2 + 4x - y^2 + 6y - 5 &= x^2 + 2 \cdot x \cdot 2 + 2^2 - 2^2 - y^2 + 6y - 5 = (x+2)^2 - 4 - y^2 + 6y - 5 = (x+2)^2 - y^2 + 6y - 9 = \\ &= (x+2)^2 - (y^2 - 6y + 9) = (x+2)^2 - (y^2 - 2y \cdot 3 + 3^2) = (x+2)^2 - (y-3)^2 = ((x+2) + (y-3))((x+2) - (y-3)) = \\ &= (x+2+y-3)(x+2-y+3) = (x+y-1)(x-y+5) \end{aligned}$$