$z = f(x, y) = e^{x^2 - y^2} \quad \Rightarrow \quad f_x(x, y) = 2xe^{x^2 - y^2}, \; f_y(x, y) = -2ye^{x^2 - y^2}$, so
$f_x(3, -3) = 6, \quad f_y(3, -3) = 6$.

By Equation 2, an equation of the tangent plane is

$z - 1 = f_x(3, -3)\,(x - 3) + f_y(3, -3)[y - (-3)] \quad \Rightarrow$

$z - 1 = 6(x - 3) + 6(y - -3)$ or $z = 6x + 6y + 1$.