

$$z = f(x, y) = 3x^2 - y^2 + 3y \Rightarrow f_x(x, y) = 6x,$$
$$f_y(x, y) = -2y + 3, \text{ so } f_x(-3, 3) = -18, f_y(-3, 3) = -3$$

By Equation 2, an equation of the tangent plane is

$$z - 27 = f_x(-3, 3)[x - (-3)] + f_y(-3, 3)(y - 3) \Rightarrow$$
$$z - 27 = -18(x - -3) + -3(y - 3) \text{ or } z = -18x + -3y + -18.$$