



$$f(x, y) = \frac{x^2}{9} + \frac{y^2}{4}$$

$$x_8 = 0.535679$$

$$y_8 = 0.003906$$

$$\nabla f(\cdot) = (0.119040, \\ 0.001953)$$

$$\alpha_8 = 1$$

$$\sqrt{x_8^2 + y_8^2} = 0.535693$$