



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

$$x_4 = 0.050650$$

$$y_4 = 0.012662$$

$$\nabla f(\cdot) = (0.011255, \\ 0.006331)$$

$$\alpha_4 = 3.460354$$

$$\sqrt{x_4^2 + y_4^2} = 0.052208$$