



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

$$x_3 = 1.882030$$

$$y_3 = 0.125000$$

$$\nabla f(\cdot) = (0.418229, \\ 0.062500)$$

$$\alpha_3 = 1$$

$$\sqrt{x_3^2 + y_3^2} = 1.886177$$