



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

$$x_5 = 1.138512$$

$$y_5 = 0.031250$$

$$\nabla f(\cdot) = (0.253003, \\ 0.015625)$$

$$\alpha_5 = 1$$

$$\sqrt{x_5^2 + y_5^2} = 1.138941$$