



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

$$x_4 = 0.576132$$

$$y_4 = -0.039063$$

$$\nabla f(\cdot) = (0.128029, \\ -0.019531)$$

$$\alpha_4 = 3/5$$

$$\sqrt{x_4^2 + y_4^2} = 0.577454$$