



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

$$x_2 = 0.888889$$

$$y_2 = -0.125000$$

$$\nabla f(\cdot) = (0.197531, \\ -0.062500)$$

$$\alpha_2 = 3/3$$

$$\sqrt{x_2^2 + y_2^2} = 0.897635$$