Answer on Question #73547 – Math – Calculus

Question

obtain all the first and second order partial derivatives of the function:

f(x,y)=sinxy

Solution

$$\frac{\partial f}{\partial x} = y\cos xy, \quad \frac{\partial f}{\partial y} = x\cos xy.$$

$$\frac{\partial^2 f}{\partial x^2} = -y^2 \sin xy, \quad \frac{\partial^2 f}{\partial x \partial y} = -xy\sin xy, \quad \frac{\partial^2 f}{\partial y^2} = -x^2 \sin xy.$$