

Select List Problems

1. Assume $f(x, y) = \sin(x)y^2$, compute:

- a. $\frac{\partial F}{dx}$
- b. $\frac{\partial F}{dy}$
- c. $\frac{\partial^2 F}{dx}$
- d. $\frac{\partial^2 F}{dy}$
- e. $\frac{\partial^2 F}{\partial x \partial y}$

2. If $f(x, y) = \cos^2(y) - \sin^2(x)$, then what is $\nabla f(x, y)$?