

1. Problem1.

Find $\frac{\partial f}{\partial x}$ and $\frac{\partial f}{\partial y}$ (in the last case $\frac{\partial f}{\partial z}$, too).

(a) $f(x, y) = x^2 - 5xy + 3y^2$

(b) $f(x, y) = e^{\sin x} y$

(c) $f(x, y) = \frac{xy^2}{x+y}$

(d) $f(x, y) = \ln(x^2 + y^2)$

(e) $f(x, y) = x^{2y}$

(f) $f(x, y) = e^{-xy}$

(g) $f(x, y) = x \ln y + tg(xy)$

(h) $f(x, y, z) = x^2y - \frac{y}{z} + 2\sqrt[3]{\sin z}$