

1 215 Homeowk 7 Problem 5

find the first partial derrivatives of:

$$f(x, y) = \frac{x}{y}$$

$$\begin{aligned}\frac{\partial}{\partial x} f(x, y) &= \frac{\partial}{\partial x} \frac{x}{y} = \frac{1}{y} \frac{\partial}{\partial x} x = \frac{1}{y} \\ \frac{\partial}{\partial y} f(x, y) &= \frac{\partial}{\partial y} \frac{x}{y} = x \frac{\partial}{\partial y} \frac{1}{y} = \ln|y| = x \ln|y|\end{aligned}$$

Math 215 Homework 5

Find the first partial derivatives of the function $f(x,t) = \sqrt{x} \ln(t)$

$$f_x(x,t) = \frac{1}{2}x^{-\frac{1}{2}} \ln(t)$$

$$f_t(x,t) = \sqrt{x} \frac{1}{t}$$