

Quiz

Name _____

1. Find the following partial derivative.

$$f(x, y) = \frac{x + e^{2xy}}{x^2 + y^3}$$

$$\frac{\partial f}{\partial x} =$$

2. Recall that NEWTON'S LAW OF COOLING states that a object cools at a rate proportional to the difference in its temperature with the temperature of the surrounding air. If a warm cup of tea, starting at a temperature of 140°F , is taken outside on a day when the outside temperature is 40°F and after 10 minutes the tea is 90°F then:

- (a) What is temperature of the tea t minutes after it has been taken outside? (Label all variables and show all work.)

- (b) How long has the tea been out side when its temperature is 50°F ?