



The Chain Rule

Question

The intensity I of sunlight varies with position and time. A solar car is traveling along the ground. Which chain rule would help you compute $\frac{df}{dt}$, where f is the intensity of sunlight on the panel of the car and t is time?

A. $\frac{df}{dt} = \frac{\partial I}{\partial t}$

B. $\frac{df}{dt} = \frac{\partial I}{\partial x} + \frac{\partial I}{\partial y} + \frac{\partial I}{\partial t}$

C. $\frac{df}{dt} = \frac{\partial I}{\partial x} \frac{dx}{dt} + \frac{\partial I}{\partial y} \frac{dy}{dt}$

D. $\frac{df}{dt} = \frac{\partial I}{\partial x} \frac{dx}{dt} + \frac{\partial I}{\partial y} \frac{dy}{dt} + \frac{\partial I}{\partial t}$