

Problems: Directional Derivatives

The function $T = x^2 + 2y^2 + 2z^2$ gives the temperature at each point in space.

1. At the point $P = (1, 1, 1)$, in which direction should you go to get the most rapid decrease in T ? What is the directional derivative in this direction?
2. At P , about how far should you go in the direction found in part (1) to get a decrease of 0.3?

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