

Directional Derivatives and the Gradient



Question

Find the equation of the tangent plane to the surface $3x^2 + y^2 - z^2 = 1$ at the point $(0, 1, 0)$.

- A. $y = 1$
- B. $y = 0$
- C. $6x(x - 0) + 2y(y - 1) - 2z(z - 0) = 0$
- D. $6x + 2y - 2z = 0$