



Question

If $x = r \cos \theta$, $y = r \sin \theta$, $z = -\sqrt{r^2 + 1}$ are the parametric equations for a piece of a surface S , then what could the surface S be?

- A. The hyperboloid of one sheet $x^2 + y^2 - z^2 = 1$.
- B. The hyperboloid of two sheets $x^2 + y^2 - z^2 = -1$.
- C. The sphere $x^2 + y^2 + z^2 = 1$.
- D. The paraboloid $x^2 + y^2 - z = 0$.