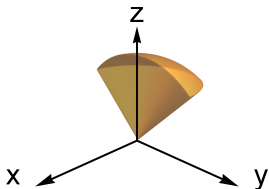


Spherical Coordinates



Question

The region depicted is below the unit sphere but above the standard cone and on one side of the plane $x = 0$. Select the correct description in spherical coordinates.

A.
$$\begin{cases} 0 \leq \rho \leq 1 \\ 0 \leq \phi \leq \pi/4 \\ \pi/2 \leq \theta \leq 3\pi/2 \end{cases}$$

B.
$$\begin{cases} 0 \leq \rho \leq 1 \\ 0 \leq \phi \leq \pi/4 \\ \pi \leq \theta \leq 2\pi \end{cases}$$

C.
$$\begin{cases} 0 \leq \rho \leq 1 \\ \pi/4 \leq \phi \leq \pi/2 \\ \pi/2 \leq \theta \leq 3\pi/2 \end{cases}$$

D.
$$\begin{cases} 0 \leq \rho \leq 1 \\ \pi/4 \leq \phi \leq \pi/2 \\ \pi \leq \theta \leq 2\pi \end{cases}$$