微積分作業10

April 24, 2026

1 Sketch the plane curve represented by the vector-valued function.

$$\mathbf{r}(t) = 3\sin t\mathbf{i} + 2\cos t\mathbf{j}, \quad 0 \leq t \leq 2\pi.$$

2 Convert the point from cylindrical coordinates to rectangular coordinates

$$(2, -\pi, -4)$$

3 Find an equation in rectangular coordinates for the surface represented by the spherical equation, and explain its graph.

$$\phi = \frac{\pi}{2}$$