

Ardalan Ghaorchian

Math 53 Quiz 8

Sketch the curve with the vector equation

$$\vec{r}(t) = \langle \sin \pi t, t, \cos \pi t \rangle$$

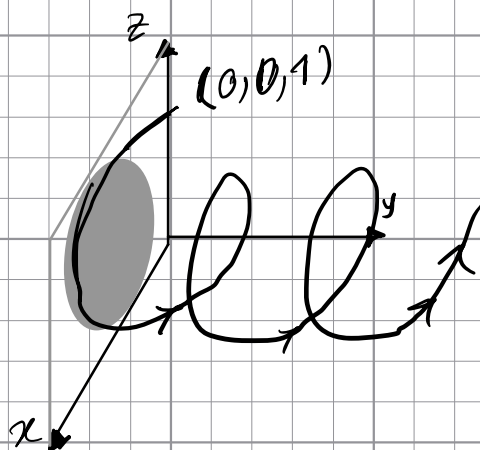
Indicate with an arrow the direction in which t increases.

$$x = \sin \pi t = \sin \pi y$$

$$y = t$$

$$z = \cos \pi t = \cos \pi y$$

$$x^2 + z^2 = 1 \rightarrow \text{circle}$$



$$t = 0$$

$$x = \sin 0 = 0$$

$$z = \cos 0 = 1$$

$$t = 1$$

$$x = \sin \pi = 0$$

$$y = \cos \pi = -1$$