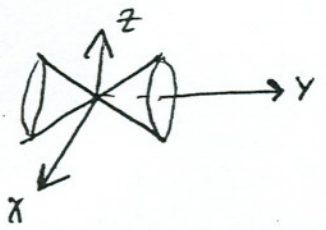
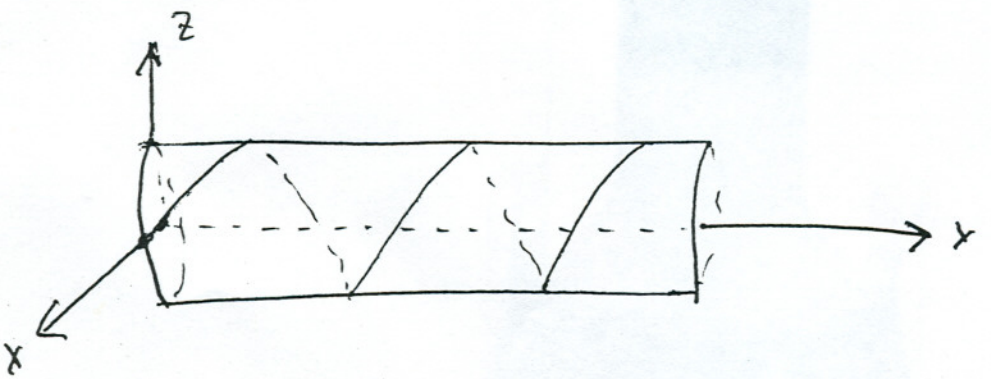
5. (8 points) Graph and name $x^2 + z^2 = y^2$ in 3− space.



a cone

when Y=0 the graph is a point (0,0,0)
when Y= a constant the graph is a circle
when X=0 the graph is 2 lines $Y = \pm Z$
when Z=0 the graph is 2 lines $X = \pm Y$

6. (8 points) Graph and describe the graph of the curve $\vec{r}(t) = \cos t\,\vec{i} + t\,\vec{j} + \sin t\,\vec{k}$ in 3− space.



If you are standing on the y-axis, the graph looks like a circle in the x-z plane. However the y-coordinate is growing. So the graph is a helix about the Y-axis