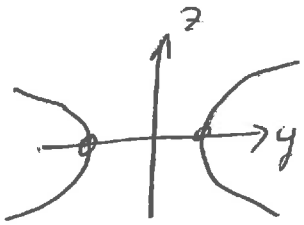
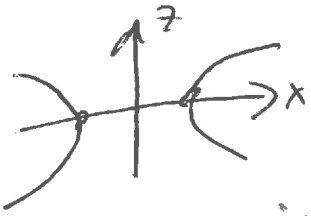
Exam 2 Spring 2019 Solution to Problem 2

$x^2+y^2-z^2=1$

when $x=0$ the graph is the hyperbola $y^2-z^2=1$

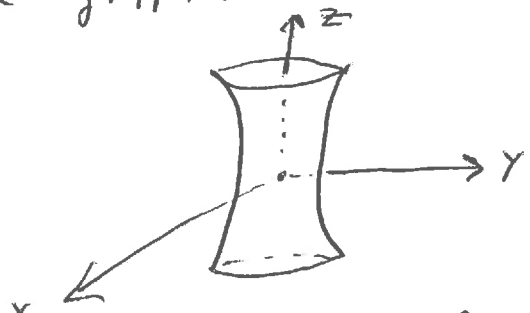


when $y=0$ the graph is the hyperbola $x^2-z^2=1$



when $z=0$ the graph is the circle $x^2+y^2=1$

The graph is a hyperboloid of one sheet



Draw the hyperbola $y^2-z^2=1$ in the yz plane and rotate the picture about the z-axis to get the picture.