

Please PRINT your name _____

No calculators, cell phones, computers, notes, etc.

Circle your answer. Make your work correct, complete and coherent.

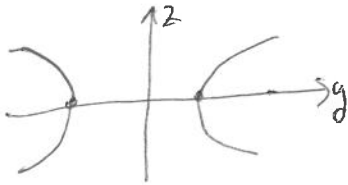
Please take a picture of your quiz (for your records) just before you turn the quiz in. I will e-mail your grade and my comments to you. I will return your quiz when I next see you.

The quiz is worth 5 points. The solutions will be posted on my website later today.

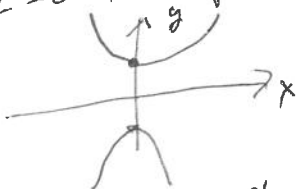
Quiz 3, September 25, 2024

Describe, graph, and name the graph of $y^2 - x^2 - z^2 = 1$ in 3-space.

When $x=0$ the equation becomes $y^2 - z^2 = 1$ which is a hyperbola



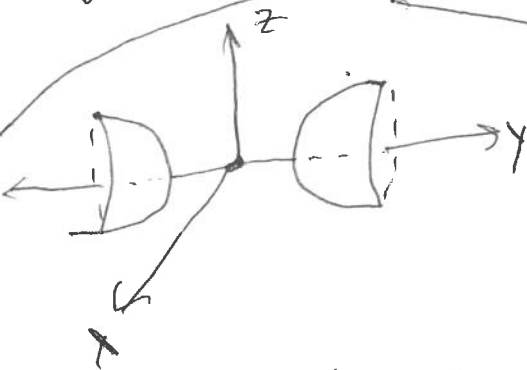
When $z=0$ the equation becomes $y^2 - x^2 = 1$ which, also, is a hyperbola



There is no graph for $-1 < y < 1$

If $y=1$ or -1 the graph is one point

If $y=c$ with $c < -1$ or $1 < c$ then the graph is a circle



A hyperboloid of 2 sheets

Draw a hyperbola with vertices $(y,z) = (1,0)$ and $(y,z) = (-1,0)$ in the yz plane. Now rotate the picture around the y -axis.