

Please PRINT your name _____

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

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

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

Quiz 4, Monday, February 22, 2021

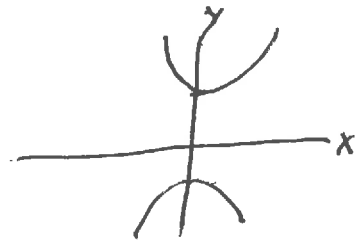
Describe and graph $y^2 - x^2 - z^2 = 1$ in three-space. What is the name of this object?

ANSWER: Look at the answer to number 1 on the following page:

Spring 2019 Exam 3 Pictures

① $y^2 - x^2 - z^2 = 1$

When $z=0$ $y^2 - x^2 = 1$ hyperbola

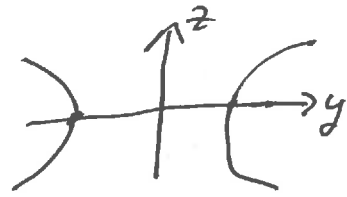


When $y=0$ $-x^2 - z^2 = 1$ No graph

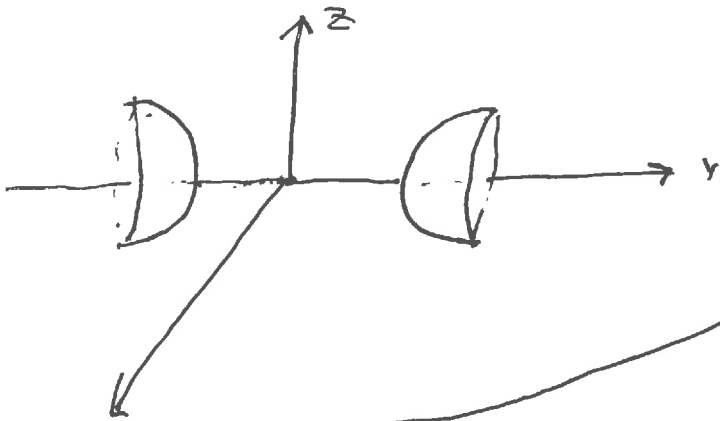
When $y = \pm 1$ $-x^2 - z^2 = 0$ one point

When $1 < y < \infty$ Positive constant $\Rightarrow x^2 + z^2$ circle

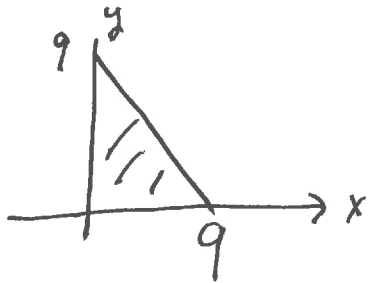
When $x=0$ $y^2 - z^2 = 1$ hyperbola



The graph is a hyperboloid of 2 sheets



④



⑤

