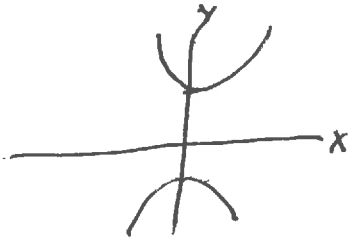
Spring 2019 Exam 3 Pictures

① $y^2 - x^2 - z^2 = 1$

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

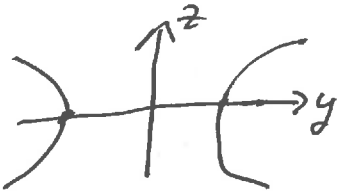


When $y = 0$ $-x^2 - z^2 = 1$ No graph

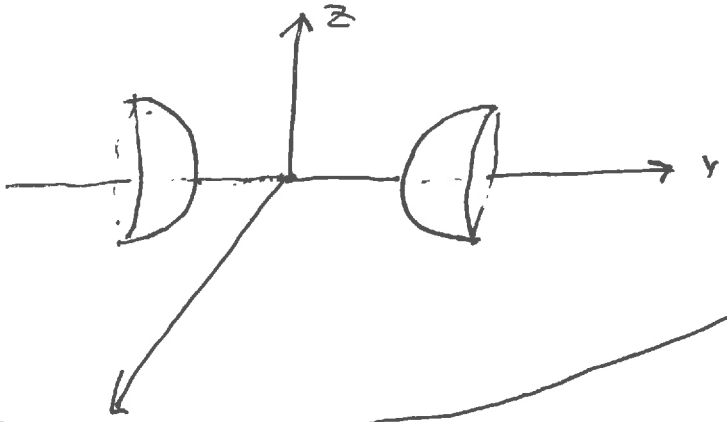
When $y = \pm 1$ $-x^2 - z^2 = 0$ one point

When $1 < y$ or $y < -1$ Positive constant $= x^2 + z^2$ circle

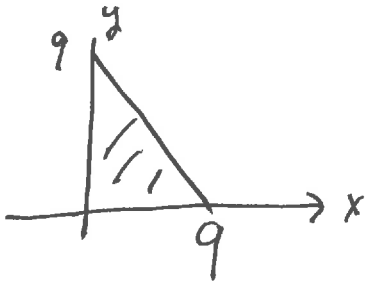
When $x = 0$ $y^2 - z^2 = 1$ hyperbola



The graph is a hyperboloid of 2 sheets



④



⑤

$x = y^2 - 4$ $x = 2 - y$