

## Problem 1

Consider a cylinder of height 2 and radius 1 centered at the origin with uniform density ( $\delta = 1$ ). (the flat faces of cylinder are parallel to the  $xy$ -plane, the lower face has the equation  $z = -1$  and the higher one  $z = 1$ ). Find  $I_y$ . Next, move the cylinder up one unit in the  $z$  direction and find  $I_y$ . Is it the same?