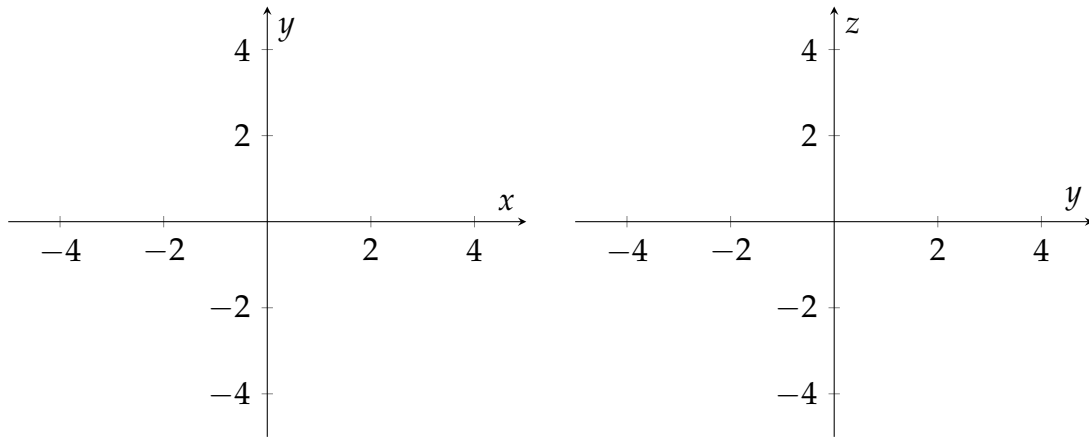1. Let S be the surface defined by $z^2 = x^2 + y^2$.

   a) Graph the intersection of S and $z = 2$ b) Graph the intersection of S and $x = 0$

   c) Sketch a graph of the surface S. Label the axes, and at least one point on the surface of S.