*Problem 3:*

Given that **x** is a vector in R3 and the tail of **x** is at the origin. Where is the focus of the tip of vector **x** such that the norm L1 of **x** is equal to 4. What is the lotus if **x** is a vector in R4?

*Solution:*

1. Consider  be a vector has its tail is at the origin and its norm is 4.

Then, the locus of the tip of  is on the sphere whose center is the origin and radius is 4.

1. Consider  be a vector has its tail is at the origin and its norm is 4.

Then, the locus of the tip of  is set of points  such that 