

## **N-ball**

Imagine an  $n$ -dimensional space. In this space we have a regular “ $n$ -ball”, the set of all points located at a distance  $R$  from the center of the  $n$ -ball (a regular 2-ball would be a circle and a 3-ball would be a sphere). Consider “ $n$ -length” to be the  $n$ -D expansion to length (2-length would be area and 3-length would be volume). What is the  $n$ -length of a regular  $n$ -ball of radius  $R$ ?