standard n-ball

Canonical name	StandardNball
Date of creation	2013-03-22 16:52:49
Last modified on	2013-03-22 16:52:49
Owner	Mathprof (13753)
Last modified by	Mathprof (13753)
Numerical id	6
Author	Mathprof (13753)
Entry type	Definition
Classification	msc 55M99
Synonym	unit n-ball
Synonym	unit ball
Synonym	standard n-ball
Defines	n-cell

The *standard n-ball* is $B^n = \{x \in \mathbb{R}^n \mid \ ||x|| \leq 1\}$, where $||x||^2 = \sum_{i=1}^{n} x_i{}^2$. The standard n-ball is also called the *unit n-ball* or the *n-disk*.

The notation in the literature for the standard n-ball is not uniform. Sometimes it is denoted by V^n , D^n ,E^n or $\overline{E}^n$.

The boundary of the standard n-ball is S^{n-1}, the n-1-sphere.

A space that is homeomorphic to the standard n-ball is called an *n-cell*.

A 1-cell is called an arc and a 2-cell is called a disk.