
Problem Set 7

Topological Methods in Geometry

SS 2011

Problem 1.

Prove that the join operation on simplicial complexes is associative. Let K be simplicial complex. Let $K^{*n} = K * K * \cdots * K$ (n times). Let $D_2 = \{\emptyset, \{1\}, \{2\}\}$. Prove that $\|D_2^{*n}\| \cong \mathbb{S}^{n-1}$.

Problem 2.

Let X, Y and Z be topological spaces. Prove that if $X \simeq Y$ then $X * Z \simeq Y * Z$.