Algebraic Topology Notes

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We start by defining Euclidean space, the unit ball and the unit sphere:

$$D^n = \{x \in \mathbb{R}^n \ : \ ||x|| \leqslant 1\} \tag{1}$$
$$S^{n-1} = \{x \in \mathbb{R}^n \ : \ ||x|| = 1\} \tag{2}$$

Theorem 1.1 (Bauer Fixed Point). *For all $n \geqslant 1$ every self-map of the unit n-ball D^n has a fixed point.*