Topology I – Homework 6

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Problem 6.1 Let $p=(0,\frac{1}{2})\in\mathbb{R}^2$ and $C=\{x\in\mathbb{R}^2\,|\,d(x,p)=\frac{1}{2},\,x\neq(0,1)\}$. Show that C is homeomorphic to $\mathbb{R}\times\{0\}$.

Proof. \Box