Problem 1

Let $I = [a_1, b_1] \times [a_2, b_2]$, a closed interval in $\mathbb{R}^2$. Given $\epsilon > 0$, construct an interval I_ϵ such that

1. $I \subset \mathring{I}_\epsilon$

2. $v(I_\epsilon) - v(I) < \epsilon$