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1.* Is there an isomorphism between the unit disk $\{z : \ |z| < 1\}$ and the punctured unit disk $\{z : \ 0 < |z| < 1\}$?

2* Assume $\mathcal{U}, \mathcal{V}$ are regions in $\mathbb{C}$ and f is an (analytic) isomorphism between $\mathcal{U}$ and $\mathcal{V}$. Let γ be a closed path in $\mathcal{U}$ which has an interior (as defined in VI§1) such that $\operatorname{Int}\gamma \subset \mathcal{U}$. Show that $f \circ \gamma$ is a closed path in $\mathcal{V}$ and that f maps (isomorphically) $\operatorname{Int}\gamma$ to $\operatorname{Int}(f \circ \gamma)$.

Also, solve problems 1–5 at the end of VII§2 and 1–9 at the end of VII§3.