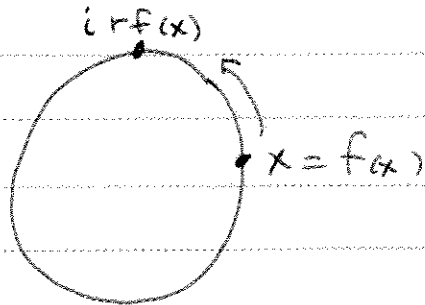


8. (a) $irf(x)$ is in S^1 , so $irf(x) = x$ implies $x \in S^1$. But then $f(x) = x$ while $ir(x) \neq x$ since it has been rotated 90° by r .



(b) The Brouwer fixed point theorem tells us that any continuous function, such as $irf: D^2 \rightarrow D^2$, must have a fixed point, so no such f can exist, since (a) shows that if it did, irf would have no fixed points.

(c) Let $f: D^2 \rightarrow S^1$ by $f(x) = (1)$, a constant function, for example.