

Name: _____

Score (Out of 4 points):

1. (4 points) The *solid torus* is the space $D^2 \times S^1$, as in Figure 1. Prove that no retraction from a solid torus to its boundary can exist.

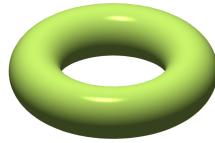


Figure 1: A solid torus

Your solution may use the strategy of Homework 3 Problem 1, but please give a complete argument, do not simply quote the results.