

Math 5863

Written Assignment # 2

due: Wednesday, February 27

PROBLEM 1. Give a specific formula for a path homotopy $H : I \times I \rightarrow X$ between the paths $f \cdot g$ and $f' \cdot g'$ in a space X , where f is path homotopic to f' , g is path homotopic to g' and the concatenation $f \cdot g$ is defined (in other words, $f(1) = g(0)$). Carefully check that all of the necessary requirements for the homotopy are met, and briefly explain why your function is continuous.

PROBLEM 2. Work problem #2 on page 38 in section 1.1 of Hatcher's book.