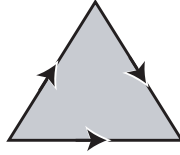


Math 8062 Homework 1

Due Thursday, 1/31/19

1. Consider a cell complex X , with one 0-cell, one 1-cell, and one triangular 2-cell. The three sides of the triangle are identified to the same edge, with the following orientations:



Prove that X is contractible. *Hint:* It really helps to visualize this object. In fact, it can be made out of paper or cloth, and embedded in \mathbb{R}^3 . To actually prove contractibility, consider using the homotopy equivalence criterion on page 13 of Hatcher.

2. Do problems 1, 3, 5 on page 38 of Hatcher.