

Problem Set 9**Set Theory & Topology****Due 4/27/16**

You are expected to do the following problems to a high standard (i.e., at least well enough to be published in a textbook) for full credit.

1. [Croom 9.2.1] Prove that equivalence of loops is an equivalence relation.
2. [Croom 9.2.2] The identity element for $\Pi_1(X, x_0)$ is the homotopy class $[c]$ determined by the constant loop c .