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- Q1. If H_1 and H_2 are conjugate subgroups of G then show that there is a canonical isomorphisms
- (a) $X^{H_1} \cong X^{H_2}$
 - (b) $X/H_1 \cong X/H_2$.
- Q2. Show the Homotopy and Lifting Property (HELP) for GCW -complexes (refer to Alaska notes).
- Q3. Let C_2 be the group of order 2. Let S^n be given the antipodal action. Compute the Bredon cohomology $H^*(S^n; \underline{\pi}_n(S^n))$.
- Q4. Describe the GCW -complexes $S^2 \cong \mathbb{C}P^1$ and $S^3 \subset \mathbb{C} \times \mathbb{C}$, where C_2 acts by complex conjugation. Describe the Hopf map as a cellular map (experimental problem).
- Q5. Compute the Bredon cohomology of $H^*(X; \underline{\pi}_n(X))$, where $X = S^2$ and $X = S^3$ as in Q4.