MATH 8307
Additional Problems for Homework Assignment #3
Due 02/14

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1. Show that $\mathbf{CP^n}$ and $\mathbf{S^{2n} \vee S^{2n-2} \vee \cdots \vee S^2}$ have the same homology and cohomology groups, but these spaces aren't homotopy equivalent.

2. Let X be the topological space obtained from $\mathbf{S^m \times S^m}$ by identifying the points (x, x_0) and (x_0, x) for all x in $\mathbf{S^m}$. Compute the cohomology ring of X with $\mathbf{Z}$ coefficients.