PSET 6

1) Explain why every complex curve (i.e. 2 manifold with complex structure) admits a Kahler structure. Why does a 2n torus admit a Kahler structure.

2) Verify that the toric variety associated to the simplex given by the convex hull of $(0,0)$, $(1,0)$, and $(0,1)$ is CP^2.

3) Consider the action of $\pm 1 \times SO(2)$ on S^2 with $SO(2)$ acting by rotation and ± 1 acting with antipodal action (one of Adams' examples). Identify the tube neighborhoods for the various orbit types, and their associated vector bundles.