# Math151c, Spring 2008

1. Construct an immersion of $T^3 - \text{point}$ in $\mathbb{R}^3$
2. Show that the tangent bundle of $S^2 \times S^1$ is trivial
3. Verify statements made in class about vector bundles defined by transition functions; i.e. show that transition functions $f_{\alpha\beta} : U_\alpha \cap U_\beta \to \mathrm{GL}(n, \mathbb{R})$ satisfying the cocycle condition define a vector bundle, and derive necessary and sufficient conditions for two sets of transition functions to define isomorphic bundles