Math 8061 Homework 5

1. Do problem 3-1 in Lee.

2. Do problem 3-2 in Lee.

3. Construct a diffeomorphism $F : S^1 \times \mathbb{R} \to TS^1$, and check that F is in fact a diffeomorphism using charts on the tangent bundle TS^1. *Hint:* it helps to think of S^1 as embedded in $\mathbb{R}^2$, and of the tangent space $T_p S^1$ as consisting of vectors in $\mathbb{R}^2$.