

## Homework 6

- (1) (10 pts each) Guillemin and Pollack, Chapter 1, Section 7, Exercises 17, 18, 19; Chapter 1, Section 8, Exercises 10, 11; Chapter 2, Section 3, Exercises 5, 7, 12, 16, 18;
- (2) Show that a function  $f : M \rightarrow \mathbb{R}$  is Morse if and only if  $f_*$ , viewed as a section of the cotangent bundle  $T^*M \rightarrow M$ , is transverse to the zero section.