

## Riemannian Geometry, Hints 5

- 5.1** (a) Use that  $Z(ag) = aZ(g)$  (Why is it?)
- 5.2** (b) It is possible to generalize the solution of Exercise 4.4.(b).
- 5.4** (a) One can do it by an explicit computation.
- (b) Consider a curve  $z(t)$  in  $\mathbb{H}^2 \subset \mathbb{C}$ . Find  $Df_A(z'(0))$ , then check that  $\langle Df_A(z'(0)), Df_A(z'(0)) \rangle = \langle z'(0), z'(0) \rangle$ .