

MTH 675 – ASSIGNMENT 3

Due: 11/03/2008 (**Monday**)

1. Given an immersion $f : M \longrightarrow \bar{M}$ and a Riemannian metric \bar{g} on \bar{M} , let $g = f^*\bar{g}$ be the induced metric on M . How do you compute g in local coordinates?
2. DoCarmo, p. 46: 4 a.
3. Show that the Lobatchevski metric from problem 2 is not right invariant.
4. Show that it is impossible for the group G from problem 2 to have a bi-invariant (both left and right invariant) metric.