

Differential Geometry I, Autumn 2013

University of Maryland, Department of Mathematics course 436

HW 4: (due by December 5, in class.)

Please write-up your own solutions to problems in an organized and neat fashion. Collaborating in the problem solving process is not allowed for this homework.

1.

Give a detailed proof of the identity

$$K = \frac{R_{1212}}{g_{11}g_{22} - g_{12}^2}.$$