

Geometry 1, MTH G122.
Fall 2004. Professor Mikhail Shubin.

Textbook:

Foundations of Differentiable Manifolds and Lie groups, by Frank W. Warner. Springer-Verlag New York, Inc., 1983.

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Homework assignment no. 9
(due November 18)

1. (a) Find explicitly all left-invariant vector fields on the Lie group of all affine transformations of \mathbb{R} (example 3.3(h) on page 83 in the book).
(b) Write down explicitly the bracket operation on the corresponding Lie algebra.
2. Find explicitly all left-invariant differential forms on the Lie group of all affine transformations of \mathbb{R} .