

**SF3674 DIFFERENTIAL GEOMETRY,
GRADUATE COURSE, FALL 2016,
SECOND SET OF HAND IN EXERCISES**

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EXERCISES

The following is the second set of hand in exercises. They should be handed in by October 28 2016.

- (1) Prove that an almost complex manifold is orientable.
- (2) O'Neill [1] problems 8.3 and 8.7 (p. 232).
- (3) Petersen [2] exercises 10.5.9 and 10.5.11 (p. 393).

REFERENCES

- [1] Barrett O'Neill. *Semi-Riemannian geometry*, volume 103 of *Pure and Applied Mathematics*. Academic Press, Inc. [Harcourt Brace Jovanovich, Publishers], New York, 1983. With applications to relativity.
- [2] Peter Petersen. *Riemannian geometry*, volume 171 of *Graduate Texts in Mathematics*. Springer, Cham, third edition, 2016. URL: <http://dx.doi.org/10.1007/978-3-319-26654-1>, doi:10.1007/978-3-319-26654-1.