

Problems are typically taken from either Jeffrey Lee's text *Manifolds and Differential Geometry* (MDG) or John Lee's text *Smooth Manifolds* (SM). I've also written a few problems. 5pts per problem here.

**Problem 35** SM Problem 7-4, page 171.

**Problem 36** SM Problem 7-7, page 172.

**Problem 37** SM Problem 7-9, page 172. (no proof of smoothness expected)

**Problem 38** SM Problem 7-16, page 172. (no proof of smoothness expected)

**Problem 39** SM Problem 8-3, page 199. (think about coordinate charts and open sets perhaps)

**Problem 40** SM Problem 8-10, page 201.

**Problem 41** SM Problem 8-16, page 201.

**Problem 42** SM Problem 8-19, page 202.

**Problem 43** SM Problem 8-20, page 202

**Problem 44** SM Problem 8-27, page 203

**Problem 45** SM Problem 8-28, page 203

**Problem 46** SM Problem 8-29, page 203