

1. Munkres 26.12
2. Munkres 29.5
3. Munkres 29.6
4. Munkres 29.8
5.
  - a) Show that every manifold is a locally compact Hausdorff space.
  - b) Show that the one-point compactification of an  $n$ -manifold  $M$  is an  $n$ -manifold if and only if there is an open subset  $U \subseteq M$  such that  $M \setminus U$  is compact and  $U$  is homeomorphic to  $\mathbb{R}^n \setminus \overline{B_1(0)}$ .
6. Munkres p.145 Number 1.
7. Munkres p.146 Number 3.