

Written Assignment 2 (due 1/18/13 by end of class)

Section 2: # 2(a-d), 6

Section 13: # 1, 3

Additional Exercise: Let  $X = \{a, b, c, d\}$  be a set of four elements.

- (a) Find two topologies  $\mathcal{T}_1$  and  $\mathcal{T}_2$  on  $X$  such that  $\mathcal{T}_1$  is finer than  $\mathcal{T}_2$ . Do not use the discrete topology or the trivial topology for either.
- (b) Find two topologies  $\mathcal{T}_3$  and  $\mathcal{T}_4$  on  $X$  such that the two topologies are not comparable.