

Name: \_\_\_\_\_

PantherID: \_\_\_\_\_

**Homework 3 - Topology – Fall 2015**

**Due Thursday, Oct. 1, 2015**

1. Exercise 16, page 60 in the text (section 1.7).

2. Exercise 19(b), page 61 in the text (section 1.7).

3. Exercise 4, page 70 in the text (section 1.8).

*Note:* A topological property  $P$  is said to be *hereditary* if any subspace of a topological space with property  $P$  also satisfies  $P$  (see bottom of page 67 in the text). The exercise above asks you to show that Hausdorff is a hereditary property.

4. Exercise 9, page 70 in the text (section 1.8).

*Note:* This exercise does not contradict Theorem 2.7, which we also proved in class.