MATH 348 Reading Questions

Section 5.1

Read Section 5.1 in the text and answer the following questions. This sheet will be checked for completeness at the beginning of the next class.

1. What is the definition of *homeomorphic* topological spaces?

2. Why is any open interval of $\mathbb{R}$ homeomorphic with $\mathbb{R}$ itself?

3. How does *stereographic projection* show a homeomorphism between to spaces?

4. How can you show that the circle S^1 is not homeomorphic to the closed interval $[0, 1]$?

5. What is the definition of an *open map*?

6. State Theorem 5.24 in your own words.