

MATH 348 Reading Questions

Section 3.4

NAME

Read Section 3.4 in the textbook. Answer the following questions. This sheet will be checked for completeness at the beginning of the next class.

1. What is the definition of a *basis* for a topology?
2. The standard topology on $\mathbb{R}$ has what basis?
3. Do you think that the basis you wrote for #2 is the only basis for the standard topology on $\mathbb{R}$? Why or why not?
4. If $f: S \rightarrow T$ is a function between topological spaces, how does a basis for S help you check whether f is continuous?
5. In Example 3.45, why does it suffice to consider open intervals (a, b) ?
6. What basis for S^1 (as a subspace of $\mathbb{R}^2$) is described in Example 3.47?