MATH 348 Reading Questions

Sections 3.2–3.3 NAME

Read from page 23 through the end of Section 3.3 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 n-sphere S^n? What is it a subspace of?

2. If the closed interval $[0, 1]$ has the subspace topology as a subspace of $\mathbb{R}$, what are the open sets in this topology?

3. What is the *general linear group*? The group $\mathrm{GL}(3, \mathbb{R})$ can be regarded as a subspace of what?

4. How is $\mathrm{O}(3)$ different from $\mathrm{SO}(3)$?

5. Summarize Proposition 3.35. What is the main point of this proposition?

6. What does it mean that the determinant function is continuous?