

1. 3.5.1
2. 3.5.2
3. 3.5.3
4. Suppose H is a torus in G . Moreover, suppose that H has the property that if $g \in G$ commutes with all elements of H , then $g \in H$. Conclude that H is a maximal torus.
You should be aware that the proof on pages 64–66 showed that the subgroups are maximal tori by exactly establishing the above fact.
5. Show that the converse of the previous problem is false. That is, find a group G containing a maximal torus H , but also such that there is an element of G not contained in H that commutes with all elements of H .
6. 3.6.3 Hint: You've already done the work.
7. 3.6.4