**Compact Surfaces, Global Theorems** **John Waczak**
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# 6A

## b. Questions

I don't think I have any questions on these sections. They were very straight forward and pretty brief. Do we have a list of complete surfaces? I'm trying to think of all of the ones that we have encountered and am realizing that a list could be useful applying these theorems.

## c. Reflections

The first section on compact surfaces was pretty straight forward especially since we used it already for the homework due on Monday. Corollary 6.13 seems pretty straight forward since there are no boundary components, we lose the $\kappa_g$ piece and the signed angles. I found Poincare's theorem a little crazy because we are free to chose any tangent field. I could easily see how we can recover the Euler characteristic since we will always have two singular points.

The second section was interesting as well. We've mentioned Hilbert's theorem before but I can being very useful.

## d. Time

I took roughly 1 hour(s) to read this section.