Readings and Discussion Questions

Thursday October 26

Read Chapters: 5.5, 5.6.1

Discussion Questions

1. If \( u \in W^{1,p}(U) \) and \( Tu = 0 \) on \( \partial U \) (assuming that \( \partial U \) is \( C^1 \)), if we extend \( u \) to \( \mathbb{R}^n \) by setting \( u \) to equal zero in the complement of \( U \), is the extension in \( W^{1,p}(\mathbb{R}^n) \)?

2. Is there an analogue of the trace theorem where you restrict to a hypersurface in \( U \) rather than the boundary?

3. What is the relationship between Theorem 1 pg. 277 and Theorem 2 pg. 279?