

## MATH 231A: LECTURE 6 REFERENCES

### 1. INTERIOR REGULARITY FOR LAPLACE'S EQUATION

- The basic interior regularity theorem for weak solutions to Laplace's equation (Weyl's Lemma) is classical. In the case where one assumes that the  $u$  is already a  $C^2$  solution, the estimates for higher derivatives is given by Theorems 6 and 7 in Section 2.2 of Evans.
- There is a basic treatment of elliptic regularity for weak solutions in Theorem 9.26 in Chapter 9.3 of Folland [1]. See also the treatment in Theorem 1.3 of Chapter 5 of Taylor.
- The proofs of the basic decay estimates for integrals of harmonic functions are given in the posted lecture notes on regularity for the Laplacian.

### REFERENCES

- [1] Folland, Gerald B. **Real analysis. Modern techniques and their applications**. Second edition. Pure and Applied Mathematics (New York). A Wiley-Interscience Publication. John Wiley & Sons, Inc., New York, 1999. xvi+386 pp.