

MA633 Partial Differential Equations II

Spring 2012

Problem Set 2

February 2, 2012

DUE: Monday, 13 February 2012

- (1) Prove that translations are continuous in $W^{k,p}(\mathbb{R}^n)$.
- (2) Problems 7, page 306 of Evans, on the trace inequality.
- (3) Problem 9, page 307 of Evans, on L^2 -bounds on derivatives.
- (4) Problem 11, page 307 of Evans, on the behavior of $U \in W^{1,p}$ -functions with zero derivatives.