Math 266B Winter 2013: Homework 2. Due 1/23 in class.

1-4. Evans p. 85. Problem 8,9,10,11.

5. An integrable function in a domain U is called *weakly harmonic* in U if

$$\int_U u\Delta\phi dx = 0$$

for all functions $\phi \geq 0$ in $C^2(U)$ with compact support in U.

Show that a continuous weakly harmonic function in U is harmonic in U.