

## HOMWORK 7

1) Let  $U = B(0, 1)$ . Show that  $f(x) = |x|^{-\frac{n}{2}}$  is in  $H^{-1}(U) \setminus L^2(U)$ . Hint: Write  $f$  as the derivative of an  $L^2$  function, and integrate by parts. Make sure to justify your steps!

2) Evans section 5.10 problems 20, 21