

## MA552. Homework 9

*Homework due November 7, 2006*

Try to prove the following statement, which is Proposition 7.5. in the notes:

If  $f$  is a linear map of  $E$  into  $F$  and  $g = f^t$  its transpose, a necessary and sufficient condition for the equation  $f(x) = y_0$  to have a solution is that  $\phi(y_0) = 0$  for all  $\phi \in g^{-1}(0)$ .