

MATH 525b ASSIGNMENT 3
SPRING 2009
Prof. Alexander
Due Wednesday February 25.

Chapter 5 #22a, 47, 51, 53, 56, 57ab, 63a

HINTS:

(47)(a) Use 5.13, more than once. Consider the class $\mathcal{A}_f = \{f \circ T_n : n \geq 1\}$ for fixed f .

(51) The harder direction is that norm closed implies weakly closed. Use 5.8.

(56) By 5.24, for every proper closed subspace there is a nonzero vector orthogonal to it.

(57) This is somewhat long but it's just a matter of using the definitions and basic properties over and over.