Due Wednesday February 7

Problem 1

1. Let S be a subspace of the Hilbert space V. Prove the following:
(a) $\bar{S} = S^{\perp\perp}$
(b) $S^{\perp} = V$ if and only if $S = \{0\}$
(c) $S^{\perp} = \{0\}$ if and only if $S = V$.

Problem 2

Exercise 4.3 on page 29 of Chapter 1.

Problem 2

Exercise 3.4 on page 29 of Chapter 1.