

## MATH 121

### HOMEWORK 4, DUE OCTOBER 1

#### Part I

- (1) Axler, page 59, Problem 4.
- (2) Axler, page 60, Problem 11.
- (3) Axler, page 60, Problem 12.
- (4) Axler, page 60, Problem 14.

#### Part II

- (5) Axler, page 60, Problem 15.
- (6) Axler, page 60, Problem 16.
- (7) Axler, page 73, Problem 5.
- (8) Let  $V, W$  be finite dimensional vector spaces over  $F$ , with bases  $\{v_1, \dots, v_n\}$  and  $\{w_1, \dots, w_m\}$ . Describe a basis for the vector space  $L(V, W)$  and compute its dimension.