

Due **Wednesday, April 27**, at the beginning of class.

**FYI: Monday, May 2, is our last day of class. The final HW assignment (= HW 14) will be issued on Wednesday, April 27, and will be due Monday, May 2.**

1. (1 point) Let  $V$  be a finite-dimensional vector space over the field  $F$ . Let  $T : V \rightarrow V$  be a linear operator. Let  $\mu, \lambda \in F$ . Let  $p, q \geq 1$  be integers. Give a detailed proof that

$$(T - \mu I)^q (T - \lambda I)^p = (T - \lambda I)^p (T - \mu I)^q.$$

2. (2 points) Section 7.1, Problem 2

3. (2 points) Section 7.1, Problem 9b

4. (2 points) Section 7.1, Problem 10

5. (1 point) Section 7.2, Problem 2

6. (2 points) Section 7.2, Problem 3

7. (1 bonus point) Section 7.2, Problem 7a