

## 4570 Test 2 Study Guide

### HW 3 –

Showing  $T : V \rightarrow W$  is or isn't a linear transformation.

Finding the null-space of  $T$ .

Finding the nullity of  $T$ .

Finding the rank of  $T$ .

Determining if  $T$  is one-to-one.

Determining if  $T$  is onto.

(See Monday the 8<sup>th</sup> notes where I do some other ways besides the homework way)

Proofs involving  $T : V \rightarrow W$ .

The rank-nullity theorem and using it in problems.

Proofs with nullspace of  $T$ .

Proofs with range of  $T$ .

### HW 4 –

Finding the matrix for  $T$  with respect to two bases. For this, do the problems in the 4570 class and also the 2550 class.

Finding the change of basis matrix.

Computing the coordinates of a vector with respect to a basis.

Proofs involving the matrix of a linear transformation.