

2550 Test 2 Study Guide

Test 2 covers HW 4, 5, 6.

A summary of the types of questions that can be on the test are given below.

HW 4 Part 1 –

- Verify if A and B are inverses. (see problem 1)
- Calculating the inverse of a matrix (see problems 2,3,4)
- Using the inverse of a matrix to solve a system of linear equations (see problem 5).

HW 5 Part 1 –

- Being able to calculate the determinant of a matrix and using it to determine if a matrix is invertible or not. (see problems 1 and 2).

HW 6 –

- Showing some vectors are linearly dependent and then writing one as a linear combination of the others.
See problem 1.
- Showing that a set of vectors are linearly independent and are a basis for \mathbb{R}^n .
See problems 2(a), 3(a), 4(a), 5(a), 6(a).
- Drawing a picture of the axes and grids that a basis creates in \mathbb{R}^2 . Or drawing linear combinations of vectors in \mathbb{R}^2 and \mathbb{R}^3 .
See problems 2(b,c,d), 3(b,c,d), 4(b,c).
- Questions about the coordinates of a vector with respect to a basis.
See problems 2(e,f,j), 3(e,f,h), 4(d), 5(b,c), 6(b,c).
- Showing a basis is or isn't orthogonal or orthonormal. And using the coordinate dot product theorem to find the coordinates of a vector in these cases.
See problems 2(g,h,i), 3(g), 4(e,f), 5(d,e), 6(d).