

Math 34600L – Spring, 2025 Homework Assignments.

Exercises in WKN = W. Keith Nicholson *Linear Algebra with Applications*

1. Sec. 2.1 : **Matrix : Linear Operations.** Exs: 2.1/2aceh, 3aceg, 4a, 9a, 14ab.

Sec. 2.2, 2.3: **Matrix Multiplication.** Exs: 2.3/1abcdef, 5b, 6a, 7ab, 18, 19.

Sec. 2.4: **Matrix Inverses.** Exs: 2.4/1a, 2a, 26a. [DUE: Feb. 04]

2. Sec. 1.1, 1.2, 1.3: **Systems of Linear Equations, Gaussian Elimination.**

Exs: 1.2/1abcdef, 2a, 3ac, 5ad, 11ac, 12abcdef, 21, 22, 1.3/1abcd,

Sec. 2.4, 2.5: **Matrix Inverses.** Exs: 2.4/2cijl, 3ac, 9abe, 10ab,

Sec. 2.5: **Elementary Matrices.** Exs: 2.5/1abcdf, 2abc, 9b, 10, 17ab. [DUE: Feb.11]

3. Sec. 2.2, 2.6: **Linear Transformations.** Exs: 2.6/ 6, 13, 14, 15a.

Sec. 3.1, 3.2, 3.6: **Determinants.** Exs: 3.1/ 1cdf, 5ac, 9abdegh, 10a

3.2/ 1c, 3, 10de, 13, 14 [DUE: Feb. 25]

TEST 1 - Tuesday, March 04.

4. Sec. 6.1, 6.2, 6.3: **Vector Spaces and Subspaces.** Exs: 6.1/ 1, 4, 8, 9, 15,

6.2/ 1abde, 2abc, 3abc, 21ab, 5.1/2bc, 3b 5.2/1bcd 6.3/1bd, 2ac [DUE Mar. 13]

5. Sec 6.3, 6.4: **Linear Independence and Dimension.** Exs: 6.3/ 1bd, 5acd, 7a, 10a

6.4/ 1c, 2a, 3d, 8, 9 [DUE Mar. 25]

6. Sec 7.1, 7.2, 7.3: **Linear Transformations.** Exs: 7.1/ 1def, 2cd, 6, 15ab, 16

7.2/ 1ac, 2bch [DUE Apr 01]

TEST 2 - Tuesday, April 08.

7. Sec 9.1, 3.3, 3.5: **Matrix of Linear Transformation and Diagonalization.** Exs: 9.1/ 3bcd, 3.3/ 1abcdh, 3.5/ 1a [DUE Apr. 24]

8. Sec 8.1, 5.6, 8.2, 8.6: **Orthogonality and Symmetric Matrices.** Exs: 8.1/ 1ac, 4a, 5.6/ 1a, 2a, 3a, 8.2/ 5acd, 8 [DUE May. 06]

Test 3 – Tuesday, May 13