

## Review 1 Math 335

Any term in **bold face** know the definition well enough to state it on the test. The definition you give should be very similar to the one in the book or one with similar detail.

Section 1.1-1.2 **consistent, inconsistent, pivot**, general solution

Sample problems Example 1.1-3 Exercises 1.2 -17

Section 1.3 **linear combination, span, vector equation** Algebraic properties of vectors

Sample problems Example 5 Exercises 11, 19

Section 1.4 **Matrix equation** Be able to apply Theorem 4, Theorem 5

Sample problems Example 2,3 Exercises 15,21

Section 1.5 **homogeneous equation, parametric vector equation**

Sample problems Example 3 Exercises 11,15,17

Section 1.7 **linearly independent, linearly dependent** Be able to apply Theorem 8

Sample problems Example 6 Exercises 11, 15,17

Section 1.8 **linear transformation**

Sample problems Example 5 Exercises 5,11,19

Section 1.9 **standard matrix of the linear transformation, onto 1-1** Be able to PROVE Theorem 11.

Sample problems Exercises 2, 19,27,35

Section 2.1 **definition of  $\mathbf{AB}$ ,  $\mathbf{A}^k$ ,  $\mathbf{A}^T$**  Be able to apply Theorem 1,2,3

Sample problems Example 7 Exercises 2

Section 2.2 **Inverse of  $\mathbf{A}$** , Be able to apply Theorem 4,6 Be able to PROVE Theorem 5, Theorem 6b and that the inverse of a matrix is unique .

Sample problems Example 4 Exercises 19, 29

Section 2.3 Be able to apply the invertible matrix theorem

Section 2.8 **Subspace, Column space, null space, basis** , Be able to **PROVE Theorem 12** .

Sample problems Example 7 Exercises 17,23

Section 2.9 **coordinate of  $x$  relative to  $\beta$  , dimension, rank, Rank Theorem, Basis Theorem** Be able to apply the invertible matrix theorem

Sample problems Example 1 Exercises 9,13

Section 4.1 Exercise 5-8

Section 4.9 Exercise 5,6