

MAT 175 Spring 2010: Guidelines for exam 2

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1. Exam 2 will be very similar to quizzes, bonus problems and homework assignments.
2. Know how use definition of subspaces to determine whether the given set is a subspace or not.
3. Know how to find bases and dimensions of a column space, a null space, and a row space.
4. Know how to extend a basis of a given subspace of \mathbb{R}^n to a basis of \mathbb{R}^n .
5. know how to find a co-ordinate vector and know how to find a matrix representation of a given linear operator with respect to a given basis and know the relationship between such matrix with the standard matrix.
6. know how to find eigenvalues, eigenvectors, bases of eigenspaces.
7. know how to determine whether a given matrix is diagonalizable or not.
8. know how to determine when a matrix is diagonalizable if the characteristic polynomial of such matrix is given.
9. know how use dot product, and norm and know how to proof statements involved with dot products and norms.
10. know how to determine whether the given set is orthogonal or not.
11. know how to use the Gram-Schmidt process.