

Midterm 1 – Review

MAS 3105 Linear Algebra

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Fall, 2014

The midterm exam will be on October 2, 2014.

1. Systems of Linear Equations

- (a) consistent, inconsistent systems
- (b) row reduction
- (c) augmented matrix
- (d) coefficients matrix
- (e) pivots
- (f) free variables
- (g) parameterized solution set

2. Matrices and vectors

- (a) matrix multiplication
- (b) homogeneous equations, solution spaces
- (c) writing solution sets to homogeneous equations as the span of a finite list of vectors
- (d) dimension of solution spaces
- (e) particular solutions and general solutions
- (f) writing the set of general solutions as the sum of a particular solution plus a homogeneous solution

3. Vector spaces and maps (transformations) between them

- (a) linear combinations of vectors
- (b) span of vectors
- (c) linear independence
- (d) image of a linear transformation
- (e) column space and null space
- (f) checking if a linear transformation is one-to-one
- (g) checking if a linear transformation is onto