Linear Algebra Standards

How can	we solve systems of linear equations?
□ □ E 1	Systems as matrices. I can translate back and forth between a system of linear equations and the corresponding augmented matrix.
$\square \square \mathbf{E2}$	Row reduction. I can put a matrix in reduced row echelon form.
\square \square E3	Systems of linear equations. I can solve a system of linear equations.
\square \square E 4	${f Homogeneous}$ systems. I can find a basis for the solution set of a homogeneous system of equations.
What is	a vector space?
$\square \square \mathbf{V1}$	Vector space. I can determine if a set with given operations forms a vector space.
$\square \square \mathbf{V2}$	Linear combinations . I can determine if a vector can be written as a linear combination of a given set of vectors.
\square \square $\mathbf{V3}$	Spanning sets. I can determine if a set of vectors spans a vector space.
$\square \square V4$	Subspaces. I can determine if a subset of a vector space is a subspace or not.
What str	ructure do vector spaces have?
\square \square S1	Linear independence. I can determine if a set of vectors is linearly dependent or independent.
$\square \square \mathbf{S2}$	Basis verification. I can determine if a set of vectors is a basis of a vector space.
\square \square S3	Basis construction. I can compute a basis for the subspace spanned by a given set of vectors.
$\square \square \mathbf{S4}$	Dimension . I can compute the dimension of a vector space.
How can	we understand linear maps algebraically?
□ □ A1	Linear maps as matrices . I can write the matrix (with respect to the standard bases) corresponding to a linear transformation between Euclidean spaces.
$\square \square \mathbf{A2}$	Linear map verification. I can determine if a map between vector spaces is linear or not.
$\square \square \mathbf{A3}$	$\textbf{Injectivity and surjectivity}. \ I \ can \ determine \ if \ a \ given \ linear \ map \ is \ injective \ and/or \ surjective.$
$\square \square \mathbf{A4}$	$\textbf{Kernel and Image}. \ I \ can \ compute \ the \ kernel \ and \ image \ of \ a \ linear \ map, \ including \ finding \ bases.$
What algebraic structure do matrices have?	
$\square \;\square\; M1$	Matrix Multiplication. I can multiply matrices.
$\square \;\square \; \mathbf{M2}$	Invertible Matrices. I can determine if a square matrix is invertible or not.
\square \square M3	Matrix inverses. I can compute the inverse matrix of an invertible matrix.
How can	we understand linear maps geometrically?
\square \square G1	Determinants . I can compute the determinant of a square matrix.
□ □ G2	$\textbf{Eigenvalues}. \ I \ can \ find \ the \ eigenvalues \ of \ a \ square \ matrix, \ along \ with \ their \ algebraic \ multiplicities.$
\square \square G3	Eigenvectors. I can find the eigenspace of a square matrix associated to a given eigenvalue.
\square \square G4	Geometric multiplicity . I can compute the geometric multiplicity of an eigenvalue of a square matrix.