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First name _____

LARSON—MATH 310—CLASSROOM WORKSHEET 06
Linear Independence and Dependence.

Review: \mathbb{R} , field, complex numbers, \mathbb{R}^2 , \mathbb{K} , \mathbb{K}^n , linear space (or vector space), subspace, linear map (or linear transformation), kernel, range, linear combination, subspace generated by (or spanned by) a set of vectors.

From Chp. 3 of Tsukada, et al., Linear Algebra with Python

1. (Notation). Let A be a list of vectors from a linear space V . What is $\langle A \rangle$?
 2. What is a *finite-dimensional vector space*?
 3. What is a *linearly independent* set of vectors?
 4. What is an example?
 5. What is a *linearly dependent* set of vectors?

6. What is an example?

7. What is a *basis* of liner space?

8. What is an example?

9. What is the *standard basis* of K_n ?

10. Let \vec{v} be a vector in a linear space V with basis $X = \{\vec{v}_1, \vec{v}_2, \dots, \vec{v}_n\}$. What is the *representation* of \vec{v} with respect to basis X ?

11. What is an example?