Stony Brook University
Mathematics Department
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MAT 220
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Quiz 2.

Name _____

1. Give definitions of the following notions

(1) coordinate n-space,

(2) linear operations,

(3) vector subspace,

(4) linear map,

(5) dilation map,

(6) the kernel of a linear map,

(7) linear combination of vectors,

(8) linear span of vectors,

(9) linearly independent vectors,

(10) linearly dependent vectors,

(11) non-trivial linear combination of vectors,

(12) finite-dimensional vector space,

(13) basis of a vector space,

(14) coordinates of a vector with respect to a basis,

(15) dimension of a vector space.

2. Formulate axioms of vector space.

3. Prove that a linear map maps zero to zero.