

Math 218D

Quiz 3

1. Determine if the following statements are **True** or **False**.

- (1) _____ : For any two vectors v_1 and v_2 , $\text{span}(v_1, v_2, v_1 + v_2) = \text{span}(v_1, v_2)$
(2) _____ : If u is a linear combination of v and w then w is a linear combination of u and v .

2. For the following augmented matrices:

a) $M_3 = \left(\begin{array}{cc|c} 1 & 0 & -1 \\ 0 & 0 & 0 \end{array} \right)$,

b) $M_4 = \left(\begin{array}{ccc|c} 1 & 0 & -1 & 2 \\ 0 & 0 & 3 & 5 \end{array} \right)$

answer the questions:

- (1) write each systems in the parametric form ;
(2) rewrite each as one equation involving vectors (parametric vector form).
(3) write the dimension of the solution set for each system.