

Name: \_\_\_\_\_ Sort #: \_\_\_\_\_

**Worksheet 4**  
**Linear Independence**

MATH 2250, Fall 2018

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1. Determine if the vectors are linearly independent

$$\begin{bmatrix} 5 \\ 0 \\ 0 \end{bmatrix}; \quad \begin{bmatrix} 7 \\ 2 \\ -6 \end{bmatrix}; \quad \begin{bmatrix} 9 \\ 4 \\ -8 \end{bmatrix} \quad (1)$$

2. Determine if the vectors are linearly independent

$$\begin{bmatrix} 0 \\ 0 \\ 2 \end{bmatrix}; \quad \begin{bmatrix} 0 \\ 5 \\ -8 \end{bmatrix}; \quad \begin{bmatrix} -3 \\ 4 \\ 1 \end{bmatrix} \quad (2)$$

**An Extra Problem** (not on the original worksheet)

3. Determine if the vectors are linearly independent

$$\begin{bmatrix} 1 \\ 0 \\ 0 \end{bmatrix}; \quad \begin{bmatrix} 1 \\ 1 \\ 0 \end{bmatrix}; \quad \begin{bmatrix} 1 \\ 1 \\ 1 \end{bmatrix}; \quad \begin{bmatrix} 2 \\ 3 \\ 4 \end{bmatrix} \quad (3)$$