

MATH 335 Quiz 3**Name:**

Show all work. 10 points .

1) For what values of h are the vectors below linearly dependent?

$$\begin{bmatrix} 1 \\ -1 \\ 4 \end{bmatrix} \begin{bmatrix} 3 \\ -5 \\ 7 \end{bmatrix} \begin{bmatrix} -1 \\ 5 \\ h \end{bmatrix}$$

2) Find all $\mathbf{x} \in \mathbb{R}^4$ that are mapped into the zero vector by the transformation $\mathbf{x} \mapsto A\mathbf{x}$ with

$$A = \begin{bmatrix} 1 & -4 & 7 & -5 \\ 0 & 1 & -4 & 3 \\ 2 & -6 & 6 & -4 \end{bmatrix}$$