

Remember that your work is graded on the quality of your writing and explanation as well as the validity of the mathematics.

- (1) (10 Points) Construct a 3×3 nonzero matrix A such that the vector $\begin{pmatrix} 1 \\ 2 \\ 3 \end{pmatrix}$ is a solution of $Ax = 0$.

- (2) (10 Points) Find the value(s) of h for which the vectors are linearly dependent. Justify each answer.

$$\begin{pmatrix} 1 \\ 5 \\ 3 \end{pmatrix}, \begin{pmatrix} 2 \\ 9 \\ 5 \end{pmatrix}, \begin{pmatrix} 4 \\ h \\ 9 \end{pmatrix}.$$