

Quiz #9

Please print your name:

Problem 1.

(a) Is $W = \left\{ \begin{bmatrix} 3a-b \\ -a \\ a+b \end{bmatrix} : a, b \in \mathbb{R} \right\}$ a vector space? If yes, find a basis.

(b) Is $W = \left\{ \begin{bmatrix} 3a-b \\ -1 \\ a+b \end{bmatrix} : a, b \in \mathbb{R} \right\}$ a vector space? If yes, find a basis.

(c) Is $W = \left\{ \begin{bmatrix} a \\ b \\ c \end{bmatrix} : a - 2b = 3 \right\}$ a vector space? If yes, find a basis.

(d) Is $W = \left\{ \begin{bmatrix} a \\ b \\ c \end{bmatrix} : a - 2b = 3c \right\}$ a vector space? If yes, find a basis.