

Name: .....

Show that the set  $W$  of all vectors of the form  $\begin{bmatrix} 2a - b \\ 3b - c \\ 3c - a \\ 3b \end{bmatrix}$ , where  $a$ ,  $b$ , and  $c$  represent arbitrary real numbers, is a subspace of  $\mathbb{R}^4$ .