

(a) Find a basis for the subspace.

- 9q + 6r

A basis for the subspace is $\begin{bmatrix} 1 \\ 6 \\ 0 \\ -3 \end{bmatrix} \begin{bmatrix} -9 \\ 0 \\ 0 \\ 0 \end{bmatrix} \begin{bmatrix} 0 \\ 3 \\ 6 \\ 6 \end{bmatrix}$

p, q, r in \mathbb{R}

(Use a comma to separate answers as needed.)

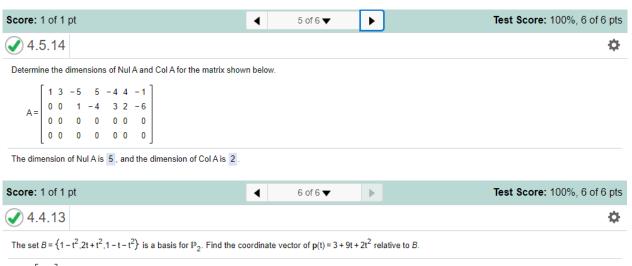
(b) State the dimension.

The dimension is 3

a+b+c c-2a

Select the correct choice below and, if necessary, fill in the answer box to complete your choice.

- O B. The set W is not a vector space because W is not closed under vector addition.
- O. The set W is not a vector space because W is not closed under scalar multiplication.
- $\ \bigcirc$ D. The set W is not a vector space because W does not contain the zero vector.



$$[\mathbf{p}]_{\mathcal{B}} = \begin{bmatrix} 2 \\ 5 \\ 1 \end{bmatrix}$$
(Simplify your answers.)