

Matrix **A** and vector **b** are given below.

1. Solve the equation $\mathbf{Ax} = \mathbf{0}$, where $\mathbf{0}$ is a zero vector.

2. Solve the equation $\mathbf{Ax} = \mathbf{b}$.

In each of the above, be sure to write your answer in vector format. Show your work.

$$A = \begin{bmatrix} 2 & 2 & 2 \\ 5 & 5 & -3 \end{bmatrix}, \vec{b} = \begin{bmatrix} 3 \\ -3 \end{bmatrix}$$