

Show all work. 10 points each.

1. Describe the solutions to the system of equation in parametric vector form.

$$\begin{aligned}x_1 + 3x_2 + x_3 &= 1 \\-4x_1 - 9x_2 + 2x_3 &= -1 \\-3x_2 - 6x_3 &= -3\end{aligned}$$

2. Balance the chemical equation $B_2S_3 + H_2O \rightarrow H_3BO_3 + H_2S$. Start by constructing a vector for each compound that list the number of atoms of each element.