

Name:

Problem 1: Suppose that the vector

$$\vec{s} = \begin{pmatrix} s_1 \\ s_2 \\ \dots \\ s_n \end{pmatrix}$$

is a solution to the equation

$$a_1x_1 + a_2x_2 + \dots + a_nx_n = 0.$$

Prove that the vector $3\vec{s}$ is also a solution of the equation above.