Worksheet 3

Matrix Equations & Solution Sets   MATH 2250, Fall 2018

1. Write the soluton of the homogeneous system below in parametric vector form.

$$
\begin{array}{rrrrrrl}
x_1 & + & 3x_2 & + & x_3 & = & 0 \\
-4x_1 & - & 9x_2 & + & 2x_3 & = & 0 \\
 & - & 3x_2 & - & 6x_3 & = & 0
\end{array}
\tag{1}
$$

2. Determine if the solution has a non-trivial solution. If the solution involves a free variable write your solution in parametric vector form.

$$
\begin{array}{rrrrrrl}
2x_1 & - & 5x_2 & + & 8x_3 & = & 0 \\
-2x_1 & - & 7x_2 & - & x_3 & = & 0 \\
4x_1 & + & 2x_2 & - & 7x_3 & = & 0
\end{array}
\tag{2}
$$