

$$b) \underline{x}_h = s \begin{bmatrix} -5 \\ 0 \\ -2 \\ 2 \\ 1 \end{bmatrix} + t \begin{bmatrix} 1 \\ -1 \\ 0 \\ 0 \\ 0 \end{bmatrix}$$

because the solution in part (a) has the form $\underline{x} = \underline{x}_p + \underline{x}_h$

c) From part (a),

$$\begin{bmatrix} 2 \\ -7 \\ -1 \end{bmatrix} = 2\underline{v}_1 + 0\underline{v}_2 - 3\underline{v}_3 + 0\underline{v}_4 + 0\underline{v}_5$$

d) Because there is an infinite number of solutions to the corresponding homogeneous system of equations, these vectors are linearly dependent.