

Name: _____

Score: _____

The following questions concern the matrix $A = \begin{bmatrix} 1 & 4 & 3 & -1 \\ 3 & 12 & 9 & -3 \\ 1 & 4 & 3 & 2 \\ 2 & 8 & 6 & 1 \end{bmatrix}$.

1. Find a basis for the row space of A .

2. Find a basis for the column space of A .

3. Find a basis for the null space of A .