

Name \_\_\_\_\_

Mathematics 205: Linear Algebra  
Fall Semester 2004  
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Quiz #4  
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The matrix  $A = \begin{bmatrix} 1 & 3 & 0 & 3 \\ -1 & -1 & -1 & 1 \\ 0 & -4 & 2 & -8 \\ 2 & 0 & 3 & -6 \end{bmatrix}$ .

A. How many of the rows of  $A$  contain a pivot position?

B. Does the equation  $A\mathbf{x} = \mathbf{b}$  have a solution for each  $\mathbf{b}$  in  $\mathbb{R}^4$ ? Why or why not?