

**MATH 205A,B - LINEAR ALGEBRA  
FALL 2015**

QUIZ 3

**NAME:**

**Section:**(Circle one)    A(8 : 00)    B(9 : 30)

Show **ALL** your work **CAREFULLY**.

Let

$$A = \begin{bmatrix} 1 & -3 \\ 3 & 5 \\ -1 & 7 \end{bmatrix}.$$

(a) Solve the homogeneous equation  $A\vec{x} = \vec{0}$ .

(b) Based on your answer to (a), determine whether the columns of  $A$  are linearly independent? Justify your answer.

(c) Do the columns of  $A$  span  $\mathbb{R}^3$ ? Explain.