

Math 421 / Quiz 3

Name:

1. Let  $\mathbf{A} = \begin{pmatrix} 2 & 1 & 7 \\ 1 & 0 & 2 \\ -1 & 5 & 13 \end{pmatrix}$

- (a) Reduce the matrix  $\mathbf{A}$  to a row-echelon form. Call it  $\mathbf{B}$ .
- (b) What is the rank of  $\mathbf{B}$ ?
- (c) What is the rank of  $\mathbf{A}$ ?
- (d) Are the rows of  $\mathbf{A}$  linearly independent? Justify your answer.
- (e) What about the columns?