MATH 1553
QUIZ #4: §§3.7, 3.9, 4.1

Name		**Section**	

1. Consider the matrix

$$A = \begin{pmatrix} -6 & -18 & 1 & 8 \\ -5 & -15 & -2 & 1 \\ -1 & -3 & -1 & -1 \end{pmatrix}$$

and the matrix transformation $T(x) = Ax$.

a) [1 point] What is the domain of T?

b) [1 point] What is the codomain of T?

c) [3 points] Find a basis for the range of T.

d) [2 points] What is the nullity of A?

[Turn the page over]

2. [3 points] Consider the matrix transformation $T : \mathbf{R}^2 \to \mathbf{R}^2$ defined by

$$T(x) = \begin{pmatrix} -1 & 0 \\ 0 & 1 \end{pmatrix} x.$$

Draw the image of the **F** under this transformation.