

Math 220 Section: _____

Name: _____

Quiz 3

Student ID: _____

1.

$$A = \begin{pmatrix} 1 & 2 & -3 & 1 & 0 \\ 0 & 0 & 2 & -2 & 1 \\ 0 & 0 & -2 & 3 & 0 \end{pmatrix}$$

Find a basis of the $Col(A)$.

2.

$$\det \begin{pmatrix} 1 & 0 & 2 & 0 \\ -5 & 2 & 7 & 10 \\ 1 & 0 & 3 & 0 \\ -6 & 0 & 1 & 1 \end{pmatrix} =$$

3. Let $A = \begin{pmatrix} 2 & 1 & 1 & 1 \\ 0 & 3 & 0 & 1 \\ 0 & 0 & 3 & 1 \\ 0 & 0 & 0 & 3 \end{pmatrix}$. Find all eigenvectors for $\lambda = 3$. Is it a line, or a plane, or a 3d-space?

4. Find the distance between $\begin{bmatrix} 0 \\ 2 \\ -1 \end{bmatrix}$ and $\mathbf{Span}\left\{ \begin{bmatrix} 2 \\ 1 \\ -1 \end{bmatrix}, \begin{bmatrix} 2 \\ -3 \\ 1 \end{bmatrix} \right\}$