Name: _____ ID #:_____

As always you need to show your work. Fill in the appropriate blanks

1. The characteristic equation of a matrix A is $\square = 0$.

2. Eigenvalues are roots of $\square = 0$.

3. The characteristic equation of $A = \begin{pmatrix} 3 & 2 \\ 2 & 0 \end{pmatrix}$ is $\square = 0$

and the eigenvalues are $\square$.

4. The characteristic equation of $A = \begin{pmatrix} 3 & 2 \\ 2 & 3 \end{pmatrix}$ is $\square = 0$

and the eigenvalues are $\square$.

5. The characteristic equation of $A = \begin{pmatrix} 6 & 0 & 0 \\ 0 & 3 & 2 \\ 0 & -2 & 3 \end{pmatrix}$ is $\square = 0$

and the eigenvalues are $\square$.

6. The characteristic equation of $A = \begin{pmatrix} 6 & 0 & 0 \\ 0 & 3 & 2 \\ 1 & 1 & 0 \end{pmatrix}$ is $\square = 0$

and the eigenvalues are $\square$.