

MATH 220
Fall 2019
Quiz 3

Full Name/ Student ID:

1) Let

$$A = \begin{bmatrix} 1 & 2 & 3 \\ 0 & 1 & 0 \\ 2 & 1 & 2 \end{bmatrix}.$$

- a) Find the eigenvalues and eigenvectors of A .
- b) Find a nonsingular matrix P such that $P^{-1}AP$ is diagonal. Calculate the inverse matrix P^{-1} and show that $P^{-1}AP$ is indeed diagonal.