

Quiz 6

Student ID Number:

Name _____

Math 3A, 6 PM

Please justify all your answers

November 29, 2018

Please also write your full name on the back

1. Find a basis for the eigenspace corresponding to the eigenvalue $\lambda = 3$ where A is given by

$$A = \begin{bmatrix} 4 & 0 & -1 \\ 3 & 0 & 3 \\ 2 & -2 & 5 \end{bmatrix}.$$

2. True or False? Explain.

(a) If A is an $n \times n$ matrix with rank less than n then 0 is an eigenvalue of A .

(b) The sum of two eigenvectors of a matrix is another eigenvector.