

QUIZ November 13, 2013

Clicker Instructions: A = True; B = False;

C = I don't know; D = No truth value

correct = 1pt; don't know = 0pt; wrong = 0pt

1. Let

$$A = \begin{bmatrix} 1 & 6 \\ 5 & 2 \end{bmatrix}, \quad \mathbf{v} = \begin{bmatrix} 6 \\ -5 \end{bmatrix}$$

The vector \mathbf{v} is an eigenvector of the matrix A .

2. Let

$$A = \begin{bmatrix} 7 & 6 \\ 0 & 4 \end{bmatrix}.$$

The eigenvalues of A are 7 and 4.

3. Let A be a matrix, and \mathbf{v}_1 and \mathbf{v}_2 vectors, such that $A\mathbf{v}_1 = 3\mathbf{v}_1$ and $A\mathbf{v}_2 = 7\mathbf{v}_2$. Then \mathbf{v}_1 and \mathbf{v}_2 may be either independent or dependent.
4. The value 0 is an eigenvalue of a square matrix A if and only if A is invertible.
5. An $n \times n$ matrix can have at most n^2 distinct eigenvalues.