

MS-A0001 - Matrix Algebra, 26.10.2020-08.12.2020

Started on	Tuesday, 8 December 2020, 8:45 AM
State	Finished
Completed on	Tuesday, 8 December 2020, 8:46 AM
Time taken	12 secs
Grade	3.00 out of 3.00 (100%)

Question 1

Flag question

Mark 1.00 out of 1.00

Correct

$$A = \begin{pmatrix} 2 & -1 \\ -1 & 2 \end{pmatrix}, \Lambda = \begin{pmatrix} 3 & 0 \\ 0 & 1 \end{pmatrix}, V = \begin{pmatrix} -\frac{1}{\sqrt{2}} & \frac{1}{\sqrt{2}} \\ \frac{1}{\sqrt{2}} & \frac{1}{\sqrt{2}} \end{pmatrix}.$$

Is  $A = V\Lambda V^T$ ?

Select one or more:

- ☐ a. False
- ☒ b. True 

Yes!

Your answer is correct.

The correct answer is: True

Question 2

Flag question

Mark 1.00 out of 1.00

Correct

$$A = \begin{pmatrix} 2 & -1 & 0 \\ -1 & 2 & -1 \\ 0 & -1 & 2 \end{pmatrix}, \Lambda = \begin{pmatrix} 2 + \sqrt{2} & 0 & 0 \\ 0 & 2 & 0 \\ 0 & 0 & 2 - \sqrt{2} \end{pmatrix}, V = \begin{pmatrix} \frac{1}{2} & -\frac{1}{\sqrt{2}} & \frac{1}{2} \\ -\frac{1}{\sqrt{2}} & 0 & \frac{1}{\sqrt{2}} \\ \frac{1}{2} & \frac{1}{\sqrt{2}} & \frac{1}{2} \end{pmatrix}.$$

Is  $A = V\Lambda V^T$ ?

Select one or more:

- ☒ a. True 

Yes!
- ☐ b. False

Your answer is correct.

The correct answer is: True

Question 3

Flag question

Mark 1.00 out of 1.00

Correct

Algebraic and geometric orders are always the same for a real valued eigenvalue.

Select one or more:

- ☒ a. False 

Yes!
- ☐ b. True

Your answer is correct.

The correct answer is: False

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