

Quiz 3

⚠ This is a preview of the published version of the quiz

Started: Sep 17 at 7:39pm

Quiz Instructions

Once you open this quiz, you will have 25 minutes to submit it. You will have only **one** submission attempt. The quiz must be **submitted** by 7:59 PM (Atlanta time) on Friday, Sep 11. There are 5 questions after the honor code pledge.

Question 1

0 pts

Please read and attest to the honor statement below:

I understand that this assessment is open-book and open-note, but not open-internet. I may use my class notes, my instructor's notes, and the ILA textbook at <https://textbooks.math.gatech.edu/ila/ila.pdf> (<https://textbooks.math.gatech.edu/ila/ila.pdf>).

However, I will not visit any other websites, use any search engines, or use any calculators or computer aids whatsoever (Matlab, Mathematica, Chegg.com, Geogebra, etc.) as I take this assessment.

This assessment is completely my own work. I will not discuss the answers or any of the contents of this assessment with anyone until the time it is due.

- I attest to my integrity, and I understand that any suspected violation of this policy may be prosecuted to the fullest extent allowable by Georgia Tech.

Question 2

1 pts

Solve for the unknown a in the vector equation

$$\begin{pmatrix} 2 \\ a \end{pmatrix} + \begin{pmatrix} -1 \\ 7 \end{pmatrix} = \begin{pmatrix} 1 \\ 1 \end{pmatrix}$$

Your answer should be a number.

Question 3**1 pts**

Consider the following two vectors v and w :

$$v = \begin{pmatrix} 6 \\ -6 \\ 0 \end{pmatrix}, \quad w = \begin{pmatrix} 0 \\ 2 \\ -1 \end{pmatrix}$$

For which value of h is the following vector in the span of v and w ?

$$\begin{pmatrix} 2 \\ h \\ -4 \end{pmatrix}$$

Your answer should be a number.

Question 4**1 pts**

Fill in the blank in the following matrix product.

$$\begin{pmatrix} 0 & 1 & 0 & 1 \\ -1 & 0 & 1 & 0 \end{pmatrix} \begin{pmatrix} 1 \\ 2 \\ 3 \\ 4 \end{pmatrix} = \begin{pmatrix} 6 \\ \square \end{pmatrix}$$

Your answer should be a number.

Question 5**1 pts**

Suppose that A is a matrix, and that we can row reduce it to the following matrix:

$$\begin{pmatrix} 1 & 2 & -3 \\ 0 & -7 & 2 \\ 0 & 0 & 2 \end{pmatrix}$$

Which of the following statements are necessarily true about A ? Select all that apply.

- The span of the columns of A is \mathbb{R}^3
- The matrix equation $Ax=b$ is consistent for every b in \mathbb{R}^3 .
- There is a b in \mathbb{R}^3 so that $Ax=b$ is inconsistent.
- The span of the columns of A is a line in \mathbb{R}^3
- The matrix equation $Ax=0$ is consistent

Question 6**1 pts**

Suppose that A is a 3×2 matrix. Which of the following statements must be true about A ?

- There is vector b so that $Ax=b$ is inconsistent
- The span of the columns of A is a plane in \mathbb{R}^3
- The span of the columns of A is \mathbb{R}^3

None of these

Quiz saved at 7:46pm

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