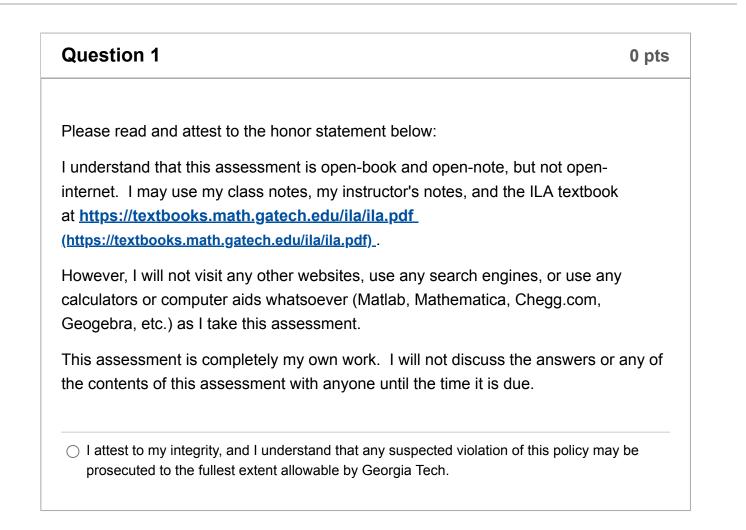# Quiz 9

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

Started: Nov 10 at 7:07am

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, Oct 30. There are 5 questions after the honor code pledge.
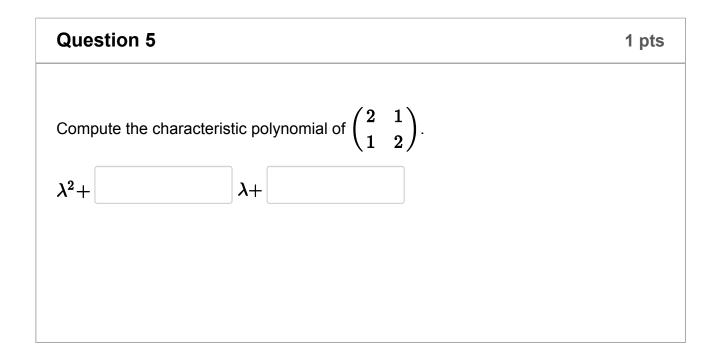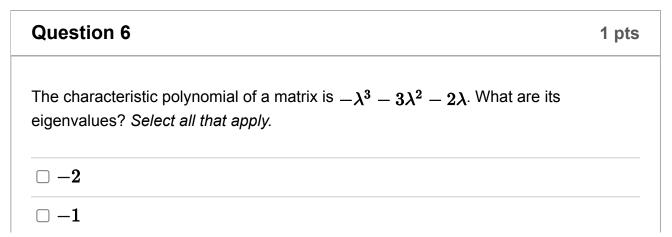

Question 1	0 pts

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

The vector $\begin{pmatrix} 3 \\ 3 \\ 6 \end{pmatrix}$ is an eigenvector for the matrix $\begin{pmatrix} 1 & -3 & 3 \\ 3 & -5 & 3 \\ 6 & -6 & 4 \end{pmatrix}$. What is the corresponding eigenvalue?

[a]

Question 3   **1 pts**

Let $T : \mathbb{R}^2 \longrightarrow \mathbb{R}^2$ be the linear transformation given by reflection about the line $y = 3x$. What are the eigenvalues of the standard matrix for T? *Select all that apply.*

☐ -2

☐ -1

☐ 0

☐ 1

☐ 2

Question 4   **1 pts**

Let $T : \mathbb{R}^2 \longrightarrow \mathbb{R}^2$ be the linear transformation given by projection to the y-axis. Which of the following are eigenvectors of the standard matrix for T? *Select all that apply.*

☐ $\begin{pmatrix} 0 \\ 0 \end{pmatrix}$

☐ $\begin{pmatrix} 1 \\ 0 \end{pmatrix}$

☐ $\begin{pmatrix} 0 \\ 1 \end{pmatrix}$

☐ $\begin{pmatrix} 1 \\ 1 \end{pmatrix}$

☐ $\begin{pmatrix} 2 \\ 0 \end{pmatrix}$

Question 5   1 pts

Compute the characteristic polynomial of $\begin{pmatrix} 2 & 1 \\ 1 & 2 \end{pmatrix}$.

$\lambda^2 +$ [   ] $\lambda +$ [   ]

Question 6   1 pts

The characteristic polynomial of a matrix is $-\lambda^3 - 3\lambda^2 - 2\lambda$. What are its eigenvalues? *Select all that apply.*

☐ -2

☐ -1

- [ ] **0**
- [ ] **1**
- [ ] **2**

Not saved   Submit Quiz