Algebra A – Learning Log 8

The study goal is to understand how culture influences students' mathematical conceptions and learning skills.

In this study, you will be asked to answer questions. Some of them will be mathematical questions, regarding the material of the course. In other questions you will be asked to reflect on the previous answers that you gave and about your learning process in the course.

Taking part in this study is completely voluntary. There are no right or wrong answers. The records of this study will be kept private, and will not affect your course grade. Answering the mathematical questions incorrectly will not affect your course grade.

If you decide not to take part or to skip some of the questions, it will not affect your course grade. If you decide to take part, you are free to withdraw at any time.

If you decide to participate you will benefit a **bonus of 2 points** added to your final grade (see details on the course website).

If you have any questions, please don't hesitate to contact me, at: lital.shemen@gtiit.edu.cn

Thank you for your participation.

Answer the following problem:

Let $T : \mathbb{R}_2[x] \to \mathbb{R}_2[x]$ be a linear operator satisfying $[T]_B = \begin{pmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 1 & 1 & 0 \end{pmatrix}$, where $B = \{1, 1 + x, x^2\}$. Answer the following section **without calculating** T.

- (a) Determine if T invertible.
- (b) Find a basis and dimension to the image and the kernel.

Answer the following questions:

- Rate the difficulty of the given problem.
 (1 very easy, 9 very hard)
 - $1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6 \quad 7 \quad 8 \quad 9$

What helped you solve the problem?

2. Suppose the problem is given in the exam, and is worth 20 points. How many points do you think you gained for your solution? Please explain.

3. Do you agree with the following statements? (1 - don't agree at all, 9 - strongly agree)

(a) The purpose of the problem is to evaluate algorithmic skills, such as arithmetic calculations, technical skills, solving methods, etc.

 $1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6 \quad 7 \quad 8 \quad 9$

(b) The purpose of the problem is to evaluate cognitive skills, such as intuitive understanding, train of thought, strategy, etc.

 $1 \quad 2 \quad 3 \quad 4 \quad 5 \quad 6 \quad 7 \quad 8 \quad 9$

(c) The purpose of the problem is to evaluate formal skills, such as mathematical logic, proof structure, proper writing, etc.

	1	2	3	4	5	6	7	8	9
4. (a)	Rate th	ne diffic	ultv of [.]	vour sti	idies in	GTIIT	so far.		
(1 - very easy, 9 - very hard)									
,	-			,	_	6	_	0	0
	1	2	3	4	5	6	7	8	9

Give an example of something that you find hard:

(b) Rate your interest in your studies in GTIIT so far.

(1 - not interesting at all, 9 - very interesting)

1	2	3	4	5	6	7	8	9

Give an example of something that you find interesting: