Name:	Roll Number:

Quiz 02 (Set A)

SIAS, Krea University (AY 2025-26) Mathematical Methods for Economics (Course Code: **ECON211**) 08 August 2025

Maximum Points: 10 Duration: 30 minutes

Instructions and Advice:

- This is a closed book quiz.
- This quiz accounts for 10% of your grades.
- You need to answer 8 questions in all.
- All questions are compulsory. Points for each question are mentioned in parentheses.
- Please select only one choice for the multiple choice questions.
- At no point during the exam, you are allowed to ask clarificatory questions. Make reasonable assumptions if you have doubts and proceed to answer the question.
- You are not permitted to use any electronic device including calculators.
- There is plenty of time. Use it wisely, do not rush.
- All the best!

Multiple Choice Questions

A. Both (i) and (ii) are correct.

D. Both statements are incorrect.

Answer:

B. Statement (i) is correct but statement (ii) is incorrect.C. Statement (ii) is correct but statement (i) is incorrect.

٧ı	unipic	Choice Questions	
1.	(1 point)	Identify the element a_{34} in the following matrix A	
		$A = \begin{bmatrix} 0 & 1 & 3 & 6 \\ 1 & 2 & 3 & 9 \\ 7 & 5 & 2 & 0 \\ 9 & 4 & 1 & 5 \end{bmatrix}$	
	A.	1	
	B.	0	
	C.	3	
	D.	2	
	Answer:		
2.	(1 point)	Find the roots of the following quadratic equation: $-2x^2 + 40x - 600 = 0$.	
	A.	(10, -40)	
	B.	$(10 \pm \sqrt{5})$	
	C.	No real roots exist	
	D.	(-10, 30)	
	Answer:		
3.	(1 point)	Consider the following statements:	
	Statemen	t (i): The set of equations: $2x + 3y = 5$ and $4x + 6y = 7$ does not have any so	lution.
	Statemen	t (ii): The set of equations: $4x - y = 3$ and $-28x + 7y = 21$ does not have any	y solution.

Short	Answer	Questions-	-I

4. (1 point) Let	t $A = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$ and B	$B = \begin{bmatrix} 0 & -1 \\ 6 & 7 \end{bmatrix}$. Compute	e AB.		

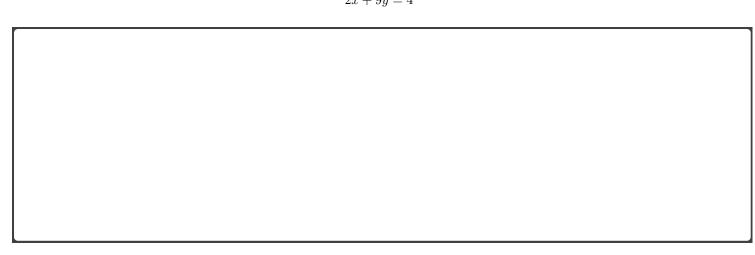
5. (1 point) There are two matrices A and B such that:

$$A = \begin{bmatrix} x+5 & 0 & 3 \\ 4 & 0.75y & 8 \end{bmatrix}, \quad B = \begin{bmatrix} 6 & 5 & 0.5 \\ 10 & 2 & -10 \end{bmatrix}, \quad 2A+B = \begin{bmatrix} 24 & 5 & 6.5 \\ 18 & 5 & 6 \end{bmatrix}$$

Compute x and y.

6. (1 point) Solve for x and y:

$$4x - 3y = 1$$
$$2x + 9y = 4$$



Short Answer Questions-II

7. (2 points) Given the following supply and demand equations:

Supply:
$$P=2Q_S^2+10Q_S+10 \label{eq:power}$$
 Demand:
$$P=-Q_D^2-5Q_D+52 \label{eq:power}$$

Calculate the equilibrium price and quantity.

8. (2 points) Use Cramer's rule **OR** matrix inverse method to solve the following set of equations:

$$5x_1 + 9x_2 = 14$$

$$7x_1 - 3x_2 = 4$$

