Name:	Roll Number:		

Quiz 02 (Set B)

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

. (1 point) Consider	the	following	statements:
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Statement (i): The set of equations: 2x + 3y = 5 and 4x - 6y = -2 has a unique solution.

Statement (ii): The set of equations: 4x - y = 3 and -28x + 7y = 21 does not have any solution.

- A. Both (i) and (ii) are correct.
- B. Statement (i) is correct but statement (ii) is incorrect.
- C. Statement (ii) is correct but statement (i) is incorrect.
- D. Both statements are incorrect.

Answer: _____

2. (1 point) Identify the element a_{43} 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. 0
- B. 1
- C. 2
- D. 3

Answer:

- 3. (1 point) Find the roots of the following quadratic equation: $2x^2 + 32x + 128 = 0$.
 - A. (-16,4)
 - B. (-8,8)
 - C. (-8)
 - D. (4, -16)

Answer:

Short Answer Questions-I

4. (1 point) Solve for x and y:

$$3x - 4y = -2$$

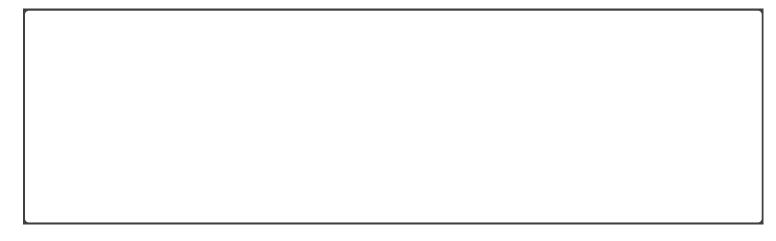
$$6x + 2y = 6$$

5.	(1 point)	Let $A =$	$\begin{bmatrix} 1 \\ 2 \end{bmatrix}$	$\begin{bmatrix} 2 \\ 4 \end{bmatrix}$ and $B =$	$\begin{bmatrix} 0 \\ 6 \end{bmatrix}$	$\begin{bmatrix} -1 \\ 7 \end{bmatrix}$.	Compute BA .
	` '		13	41	16	7	•

6. (1 point) There are two matrices A and B such that:

$$A = \begin{bmatrix} x+5 & 0 & 3 \\ 4 & 0.6y & 8 \end{bmatrix}, \quad B = \begin{bmatrix} 6 & 5 & 0.5 \\ 10 & 2 & -10 \end{bmatrix}, \quad 2A+B = \begin{bmatrix} 16 & 5 & 6.5 \\ 18 & 5 & 6 \end{bmatrix}$$

Compute x and y.



Short Answer Questions-II

7. (2 points) Use Cramer's rule **OR** matrix inverse method to solve the following set of equations:

$$9x_1 + 7x_2 = 16$$

$$4x_1 - 5x_2 = -1$$

8. (2 points) Given the following supply and demand equations: $\frac{1}{2}$

Supply:
$$P=2Q_S^2+11Q_S+9$$
 Demand: $P=-Q_D^2-7Q_D+57$

Calculate the equilibrium price and quantity.

