Monmouth COLLEGE

- Name: _____
- Date: _____

ECON 301: Intermediate Macroeconomics

Quiz #4

Spring 2025

INSTRUCTIONS:

- Please read all questions carefully before you begin answering.
- Answer all questions in the spaces provided on the question sheet.
- This quiz consists of 7 pages, including this one. There are a total of 5 problems with a total of 14 subquestions.
- This is a closed-book quiz. Please remove all materials from the top of the desk and take any necessary items from your bags before the exam begins.

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Problem 1. Definitions **(5 Points Each)**

Select four items on the list of items below, and provide a definition of the items that you chose.

- Purchasing Power Parity
- Constant Returns to Scale
- Steady State
- Golden Rule Saving Rate
- Effective Labor
- Gini Coefficient

1.A. Item #1: _____

1.B. Item #2: _____

1.C. Item #3: _____

1.D. Item #4: _____

Problem 2. True / False **(5 Points Each)**

Determine whether the following statements are either `TRUE` or `FALSE`. If you deem that the statement is `TRUE`, there is no need to justify your answer. If you deem that the statement is `FALSE`, you MUST justify your verdict by providing an explanation.

2.A. An increase in the saving rate of an economy is sufficient to sustain a higher rate of long-run economic growth.

2.B. All else equal, if the capital depreciation rate increases, the steady-state level of capital per worker will decrease.

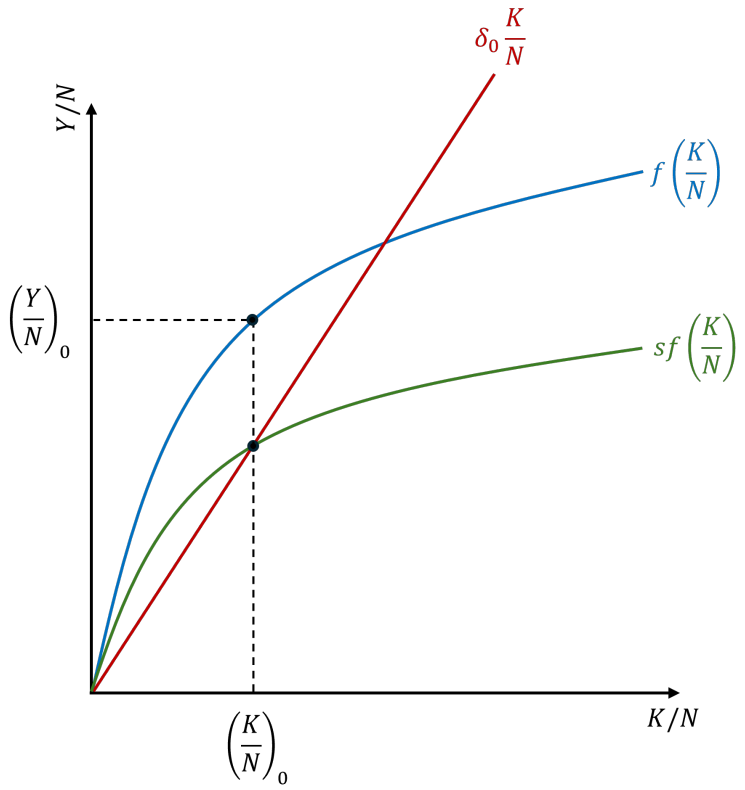
2.C. Innovation and imitation contribute equally to technological progress in both developed and developing economies.

2.D. GDP per capita provides an accurate comparison of living standards across countries, regardless of cost-of-living differences.

Problem 3. Capital Depreciation in the Long Run **(12.5 Points Each)**

For this problem, assume that the economy experiences neither population growth nor technological progress. The initial rate of capital depreciation is given as δ_0, and the economy is operating at its steady state, with per worker capital stock denoted by $(K/N)_0$ and per worker output by $(Y/N)_0$.

3.A. Suppose that, due to outside intervention, the rate of capital depreciation decreases from δ_0 to a lower level, δ_1, such that $\delta_0 > \delta_1$. In the diagram below, illustrate the impact of this change in the depreciation rate.



3.B. Briefly describe what happened to...

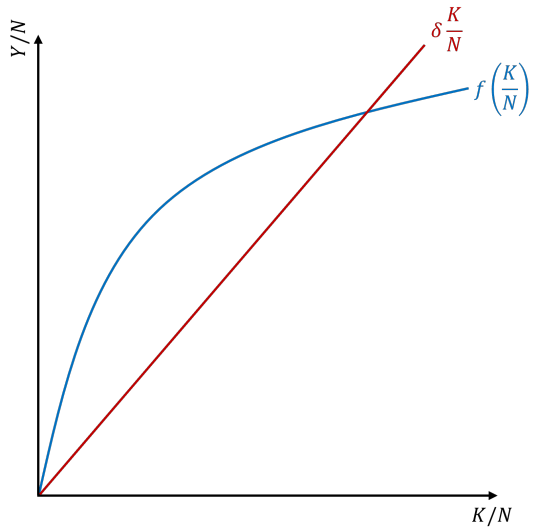
- Capital per worker in the steady state:

- Output per worker in the steady state:

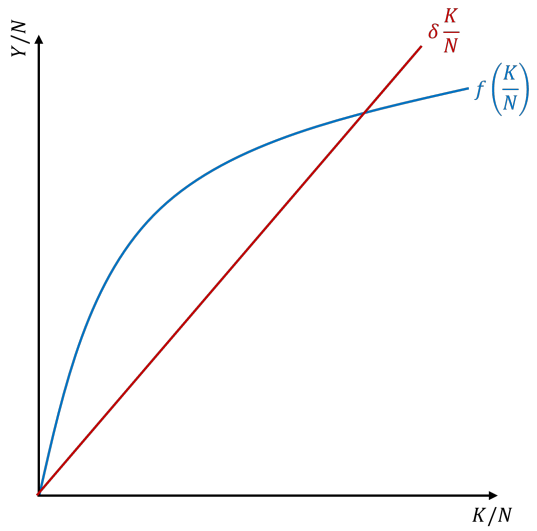
Problem 4. Saving Rates **(12.5 Points Each)**

For this problem, assume that the economy experiences neither population growth nor technological progress. Also, assume that there is no public saving. There are two identical countries—Country A and Country B. The only difference between them is the savings rate: citizens of Country B save a greater proportion of their income as private savings. Country A's savings rate is denoted by s_A, and Country B's by s_B, where $s_A < s_B$.

4.A. Illustrate and label the savings curve for both countries in the diagram below.



COUNTRY A



COUNTRY B

4.B. Discuss the differences in steady states between the two countries. You may wish to address differences (or similarities) in per worker capital stock, per worker output, private consumption, and other relevant economic indicators.

Problem 5. Technological Progress **(10 Points)**

5.A. Evaluate the following statement: "If the government's goal is to foster long-run technological progress, it should fund research that is not of immediate use to the market, as such research may be underprovided if left solely to market forces." Note that there is no objectively right or wrong conclusion to this question.

- Original Score: _____
- Recovered Score: _____
- Original Date: _____
- Recovered Date: _____