3. The table provided shows the quantities and unit prices of shirts, bread, and pants, the only three goods produced in the country of Middleland in 2021 and 2022. Assume that 2021 was the base year.

	Shirts	Bread	Pants
Unit Prices in 2021	\$11	\$4	\$12
Unit Prices in 2022	\$10	\$5	\$15
Quantities Produced in 2021 and 2022	50	70	30

A. Was the real GDP in 2021 in Middleland greater than, less than, or equal to the nominal GDP in 2021? Explain.

B. Calculate the real GDP in Middleland in 2022. Show your work.

C. Assume that Middleland was in short-run equilibrium in 2022 and that POTENTIAL real GDP was \$1,150 in 2022. Draw a correctly labeled graph of the aggregate demand, short-run aggregate supply, and long-run aggregate supply curves for Middleland in 2022, and show each of the following.

i. The equilibrium real output and price level, labeled Y_1 and PL_1, respectively

ii. The full-employment output, labeled Y_F

D. Assume the marginal propensity to consume in Middleland is 0.8. Calculate the minimum change and state the direction of change in government spending required to close the output gap in the short run in Middleland. Show your work.

STOP

END OF EXAM

2. The table provided shows economic data for the country of Louland. The base year is year 1, and the GDP deflator in year 2 is 115.

	Year 1	Year 2
Nominal GDP	800,000	1,035,000
Population	1,000	1,200

(a) Calculate real GDP in Louland in year 2. Show your work.

(b) How would the change in real GDP from year 1 to year 2 affect the demand for money and the nominal interest rate in Louland?

(c) Did the standard of living of the average citizen in Louland increase, decrease, or remain the same from year 1 to year 2 ? Explain using numbers.

(d) What was the numerical value of the inflation rate from year 1 to year 2 ?

(e) If nominal wages increased by 10% from year 1 to year 2, what happened to the real wages of workers in Louland during this time? Explain.

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

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2. The table provided shows the quantity and price of food and clothing, the only two goods produced and consumed in the country of Maltrose, in year 1 and year 2. Assume that year 1 is the base year.

	Year 1 Price	Year 1 Quantity	Year 2 Price	Year 2 Quantity
Food	$10	12	$13	10
Clothing	$5	16	$4	20

(a) Calculate the nominal GDP in year 2. Show your work.

(b) Calculate the GDP deflator in year 2. Show your work.

(c) What was the numerical value of the inflation rate from year 1 to year 2 ?

(d) Assuming that the expected inflation rate between years 1 and 2 was 3%, were each of the following better off, worse off, or unaffected as a result of the economic conditions between year 1 and year 2 ?

(i) People living on a fixed income
(ii) Borrowers with fixed interest-rate loans. Explain.

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

2. The table below shows macroeconomic data for Country A.

Year	Nominal GDP	GDP Deflator	Population
2020	40,000	100	100
2021	88,000	200	110

(a) Calculate each of the following for Country A in year 2021. Show your work.

(i) Real GDP
(ii) Real GDP per capita

(b) Based solely on the data provided, has the standard of living for the average person in Country A increased, decreased, or stayed the same between 2020 and 2021 ? Explain.

(c) How would an increase in government spending on education affect economic growth in Country A? Explain.

(d) Assume that Country A produces consumer goods and capital goods. Draw a correctly labeled production possibilities curve for Country A, and show the effect of the increase in government spending on education on your graph.

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

3. Flowerland is an open economy with a flexible exchange rate regime. The natural rate of unemployment is 5%, the frictional rate of unemployment is 4%, and the actual rate of unemployment is 7%.

(a) What is the numerical value of the cyclical rate of unemployment in Flowerland?

(b) Assume the foreign demand for lavender oil produced in Flowerland increases. What will happen to each of the following in Flowerland in the short run?

(i) Aggregate demand. Explain.
(ii) Cyclical unemployment.

The table shows the market basket quantities and prices of lavender oil and roses, the only two goods produced in Flowerland.

Goods	Quantity (in units)	2019 Price per Unit	2020 Price per Unit
Lavender oil	40	$3	$4
Roses	4	$20	$25

(c) Assume 2019 is the base year. Based on the data in the table, calculate the price index for year 2020 in Flowerland. Show your work.

(d) If nominal income in Flowerland increased by 20% from 2019 to 2020, will the standard of living of the average citizen of Flowerland increase, decrease, or stay the same from 2019 to 2020 ? Explain.

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

STOP

END OF EXAM