

1. Assume that the economy of Vortania is in long-run equilibrium.
- A. Draw a correctly labeled graph of the short-run and long-run Phillips curves for the economy of Vortania, and label the long-run equilibrium point as P.
- B. Assume that new residential construction projects are being implemented in Vortania.
- Will real output in Vortania increase, decrease, or remain the same in the short run? Explain.
 - Assuming no change in inflationary expectations, on your graph in part A, show the short-run effect of the new residential construction projects on Vortania's economy, labeling the new short-run equilibrium point as S.
- C. Vortania and Rhodara are trading partners with flexible exchange rates. The currency of Vortania is the Vortanian crown (VTC), and the currency of Rhodara is the Rhodaran mark (RHM). Assume that Vortania's capital and financial account (CFA) balance is zero. Now assume that Vortania imposes new tariffs on imports from Rhodara. Draw a correctly labeled graph of the foreign exchange market for the Vortanian crown, and show the effect of the tariffs on the SUPPLY of the Vortanian crown and the international value of the Vortanian crown.
- D. Based solely on the change in the international value of the Vortanian crown shown in part C, will Vortania's net exports increase, decrease, or remain the same in the short run?
- E. Based on the change in net exports identified in part D, what will happen to each of the following in the short run?
- The capital and financial account (CFA) balance in Vortania. Explain.
 - Employment in Vortania
- F. Assume the central bank of Vortania wants to return the Vortanian crown to its international value before the imposition of the tariffs. Would the central bank buy or sell Vortanian crowns in the foreign exchange market? Explain.

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

MACROECONOMICS**Section II****Total Time—1 hour****Reading Period—10 minutes****Writing Period—50 minutes**

Directions: You are advised to spend the first 10 minutes reading all of the questions and planning your answers. You will then have 50 minutes to answer all three of the following questions. You may begin writing your responses before the reading period is over. It is suggested that you spend approximately half your time on the first question and divide the remaining time equally between the next two questions. Include correctly labeled diagrams, if useful or required, in explaining your answers. A correctly labeled diagram must have all axes and curves clearly labeled and must show directional changes. Use a pen with black or dark blue ink.

1. Assume the economy of Artland is currently operating above full employment.
 - (a) Draw a correctly labeled graph of the short-run aggregate supply, long-run aggregate supply, and aggregate demand curves, and show each of the following.
 - (i) The current equilibrium real output and price level, labeled as Y_1 and PL_1 , respectively
 - (ii) The full-employment output, labeled as Y_f
 - (b) Assume the central bank and the government do not take any policy actions to close the output gap.
 - (i) On your graph in part (a), show how the economy automatically adjusts in the long run and label the new equilibrium price level PL_2 .
 - (ii) Explain the cause of the adjustment shown in part (b)(i).
 - (c) Alternatively, suppose the government wants to close the output gap using fiscal policy.
 - (i) Identify a fiscal policy action the government could implement to close the output gap.
 - (ii) How will the fiscal policy action identified in part (c)(i) affect the following?
 - The unemployment rate
 - The natural rate of unemployment
 - (iii) In closing the output gap, will the automatic adjustment identified in part (b)(i) produce a higher, a lower, or the same price level compared to the fiscal policy identified in part (c)(i) ?
 - (d) Draw a correctly labeled graph of the market for loanable funds. Show the effect of the fiscal policy action identified in part (c)(i) on the equilibrium real interest rate.
 - (e) Given the interest rate change identified in part (d), will the long-run aggregate supply curve shift to the right, shift to the left, or remain the same in the long run? Explain.