

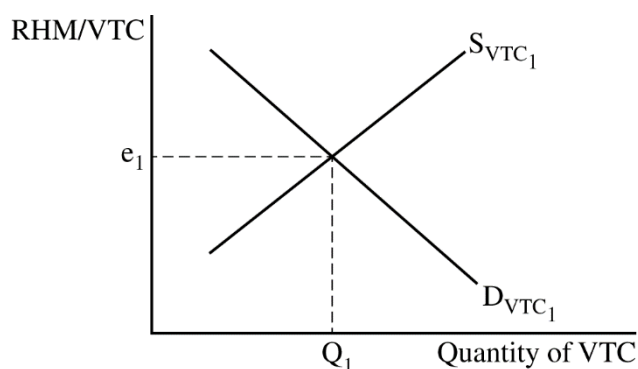
3. The table provided shows the quantities and unit prices of shirts, bread, and pants, the only three goods produced in the country of Middleland in 2021 and 2022. Assume that 2021 was the base year.

	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

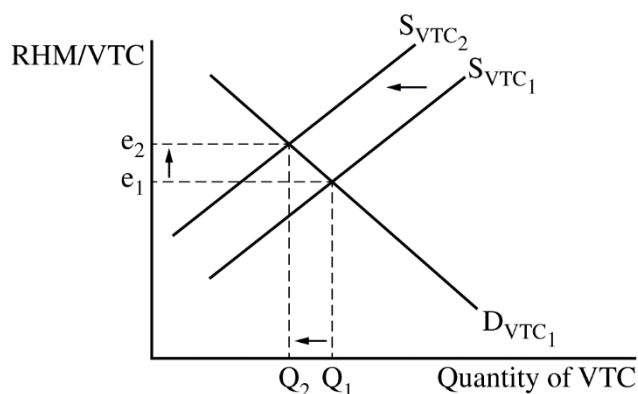
- A. Was the real GDP in 2021 in Middleland greater than, less than, or equal to the nominal GDP in 2021? Explain.
- B. Calculate the real GDP in Middleland in 2022. Show your work.
- C. Assume that Middleland was in short-run equilibrium in 2022 and that POTENTIAL real GDP was \$1,150 in 2022. Draw 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**

- C** Draw a correctly labeled graph of the foreign exchange market for the Vortanian crown. **1 point**  
 Point 5 crown.



- Point 6 The graph must show a leftward shift in the supply curve of the Vortanian crown, resulting in an appreciation of the Vortanian crown. **1 point**



- D** State that Vortania's net exports will decrease. **1 point**  
 Point 7

- E (i)** State that the capital and financial account (CFA) balance in Vortania will move into surplus and explain that the current account (CA) moved into deficit and the balance of payments must balance ( $CA + CFA = 0$ ). **1 point**  
 Point 8

- (ii)** State that employment in Vortania will decrease. **1 point**  
 Point 9

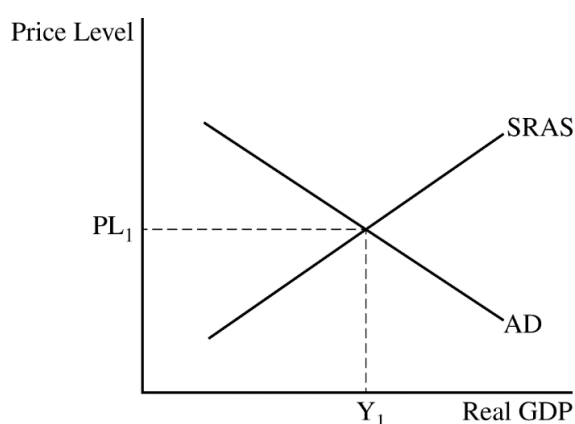
- F** State that the central bank of Vortania would sell Vortanian crowns in the foreign exchange market and explain that the increased supply of the Vortanian crown will cause it to depreciate. **1 point**  
 Point 10

**Question 3: Short****5 points**

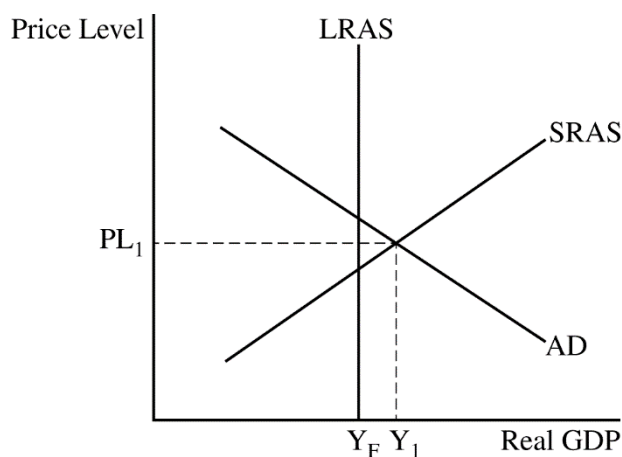
**A** State that the real GDP in 2021 was equal to the nominal GDP in 2021 and explain that **1 point**  
 Point 1 because 2021 is the base year, no price level changes have occurred, and real values always equal nominal values in the base year.

**B** Calculate the real GDP in Middleland in 2022 as \$1,190 and show your work. **1 point**  
 Point 2  $\text{Real GDP} = (\$11 \times 50) + (\$4 \times 70) + (\$12 \times 30) = \$1,190$

**C** Draw a correctly labeled aggregate demand–aggregate supply graph that shows  $PL_1$  and **1 point**  
 Point 3  $Y_1$  at the intersection of the aggregate demand (AD) and short-run aggregate supply (SRAS) curves.



Point 4 The graph must show a vertical long-run aggregate supply (LRAS) curve to the left of  $Y_1$  and label the full-employment output as  $Y_F$ . **1 point**



**D** Calculate the minimum change in government spending as a decrease of \$8 and show **1 point**  
 Point 5 your work.

$$\text{Min Change} = \frac{\text{Output Gap}}{\text{Spending Multiplier}} = \frac{(\$1,150 - \$1,190)}{\frac{1}{(1 - 0.8)}} = \frac{-\$40}{5} = -\$8$$