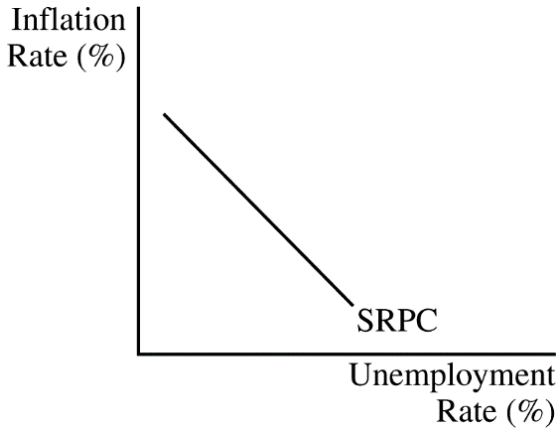
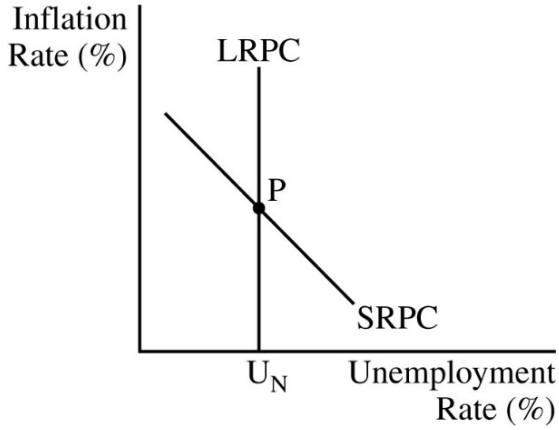
Question 1: Long — 10 points

A Draw a correctly labeled graph of the short-run Phillips curve (SRPC). **1 point**

Point 1



Point 2 The graph must include a correctly labeled long-run Phillips curve (LRPC) and show a point labeled P at the intersection of the short-run and long-run Phillips curves. **1 point**

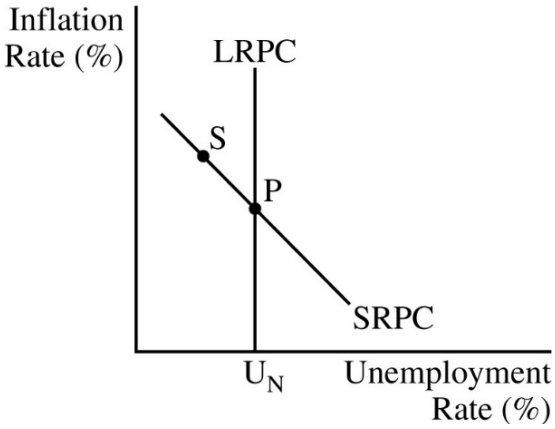


B (i) State that real output will increase and explain that the new residential construction projects increase investment spending, which increases aggregate demand. **1 point**

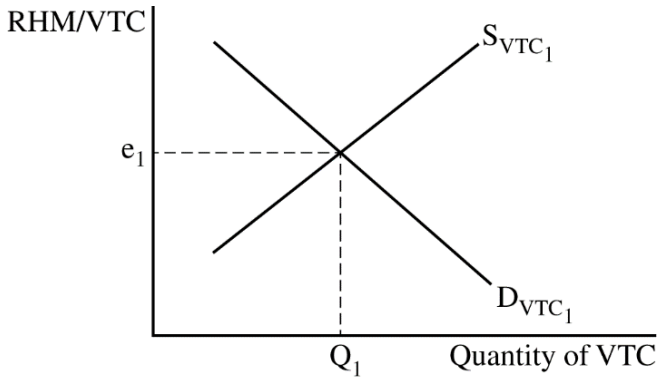
Point 3

(ii) On the graph from part A, show a point labeled S on the SRPC to the left of point P. **1 point**

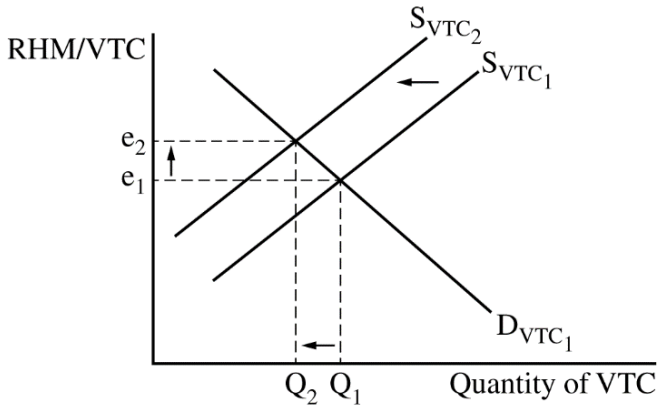
Point 4



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



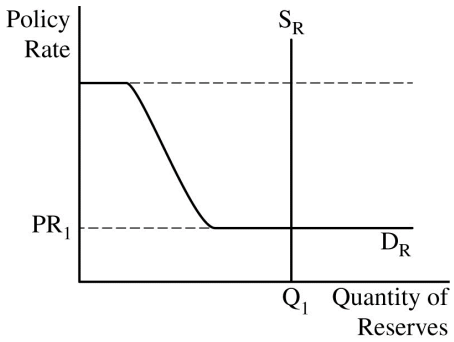
Point 6	The graph must show a leftward shift in the supply curve of the Vortanian crown, resulting in an appreciation of the Vortanian crown.	**1 point**



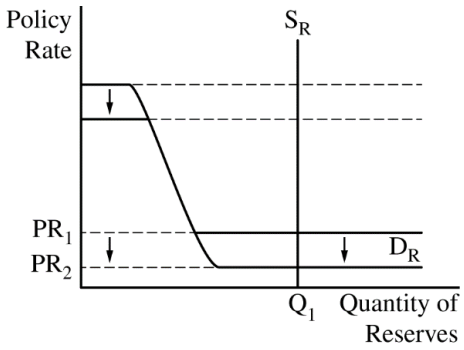
D Point 7	State that Vortania's net exports will decrease.	**1 point**
E (i) Point 8	State that the capital and financial account (CFA) balance in Vortania will move into surplus and explain that the current account (CA) moved into deficit and the balance of payments must balance (CA+CFA=0).	**1 point**
(ii) Point 9	State that employment in Vortania will decrease.	**1 point**
F Point 10	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**

Question 2: Short — 5 points

A Point 1	State that the central bank of Country L would buy bonds.	**1 point**
B Point 2	State that the central bank of Country A would decrease its administered interest rates or decrease interest on reserves.	**1 point**
C Point 3	Draw a correctly labeled graph of the reserve market with the supply curve intersecting the demand curve in the range of ample reserves.	**1 point**

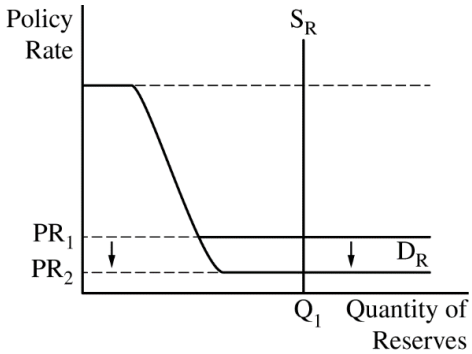


Point 4	The graph must show a decrease in the administered interest rates, resulting in a decrease in the policy rate.	**1 point**



OR

The graph must show a decrease in the lower bound of the demand curve for reserves, resulting in a decrease in the policy rate.



D Point 5	State that short-run aggregate supply will increase until it reaches full employment and explain that the increase in short-run aggregate supply in the long run will be caused by a decrease in input prices (e.g., nominal wages) and/or inflationary expectations.	**1 point**

Question 3: Short — 5 points

A — Point 1 — **1 point**

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

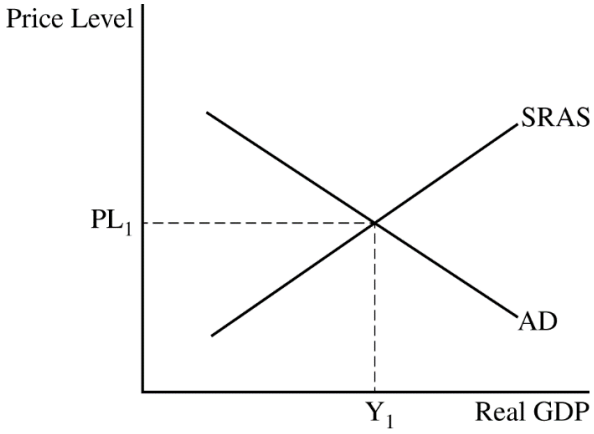
B — Point 2 — **1 point**

Calculate the real GDP in Middleland in 2022 as $1,190 and show your work.

$$\text{Real GDP} = (\$11 \times 50) + (\$4 \times 70) + (\$12 \times 30) = \$1{,}190$$

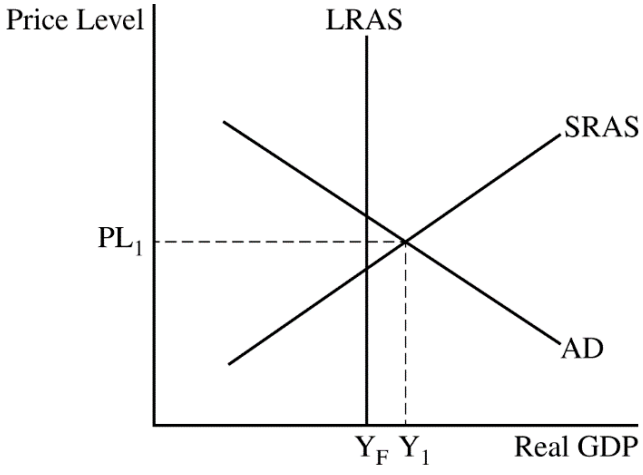
C — Point 3 — **1 point**

Draw a correctly labeled aggregate demand–aggregate supply graph that shows PL_1 and Y_1 at the intersection of the aggregate demand (AD) and short-run aggregate supply (SRAS) curves.



Point 4 — **1 point**

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.

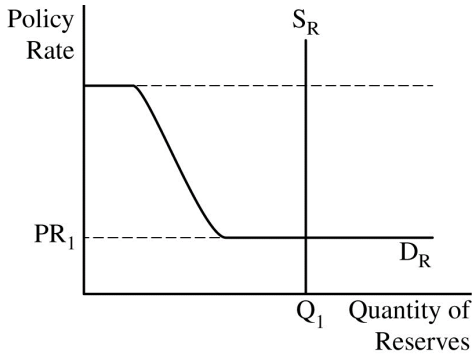
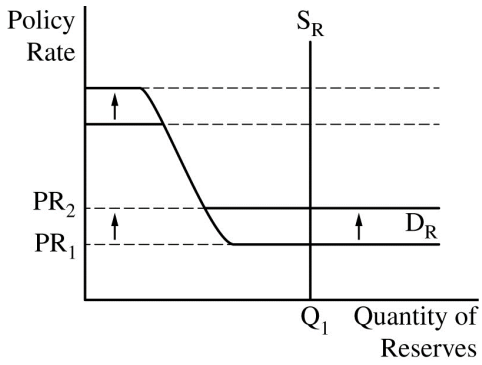
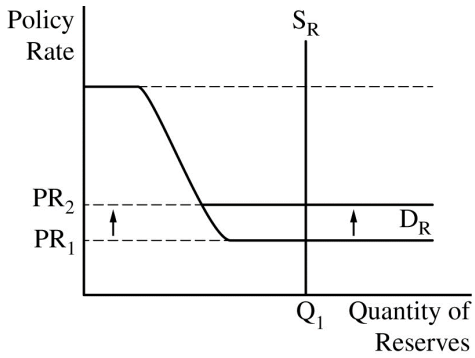


D — Point 5 — **1 point**

Calculate the minimum change in government spending as a decrease of $8 and show your work.

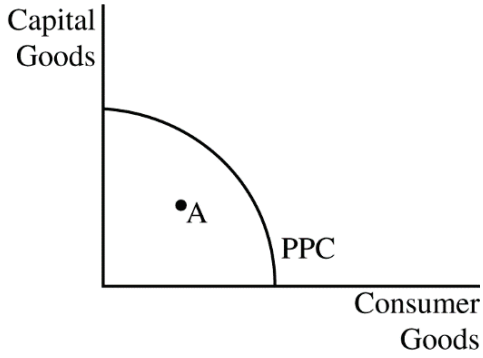
$$\text{Min Change} = \frac{\text{Output Gap}}{\text{Spending Multiplier}} = \frac{(\$1{,}150 - \$1{,}190)}{\frac{1}{(1-0.8)}} = \frac{-\$40}{5} = -\$8$$

Question 2: Short — 5 points

A Point 1	State that the central bank would increase its administered interest rates or increase interest on reserves.	**1 point**
B Point 2	Draw a correctly labeled graph of the reserve market with the supply curve intersecting the demand curve in the range of ample reserves.  	**1 point**
Point 3	The graph must show an increase in the administered interest rates, resulting in an increase in the policy rate.  OR The graph must show an increase in the lower bound of the demand curve for reserves, resulting in an increase in the policy rate.  	**1 point**

C (i) Point 4	State that the price of previously issued bonds will decrease.	**1 point**
(ii) Point 5	State that the price level will decrease and explain that the increase in interest rates will decrease interest-sensitive spending (consumption, investment, or net exports), which will decrease aggregate demand.	**1 point**

Question 3: Short — 5 points

(a)	Calculate the number of people that are unemployed as 63,000 and show your work. $\text{Unemployed} = \text{Unemployment Rate} \times \text{Labor Force Participation Rate} \times \text{Adult Population} = 9\% \times 70\% \times 1{,}000{,}000 = 63{,}000$	**1 point**
(b)	State that the country of Zeta is currently experiencing a recessionary gap and explain that the current unemployment rate (9%) is higher than the natural rate of unemployment (5%).	**1 point**
(c)	Draw a correctly labeled graph of the production possibilities curve (PPC) for Zeta that shows point A below the PPC. 	**1 point**
(d) (i)	State that the labor force participation rate will decrease and explain that the labor force will decrease because the workers who stopped looking for employment are no longer considered to be unemployed.	**1 point**
(ii)	State that the unemployment rate will decrease.	**1 point**
	Total for question 3	**5 points**

Question 2: Short — 5 points

(a) Calculate Country A's real GDP in 2021 as 44,000, calculate Country A's real GDP per capita in 2021 as 400, and show your work. — **1 point**

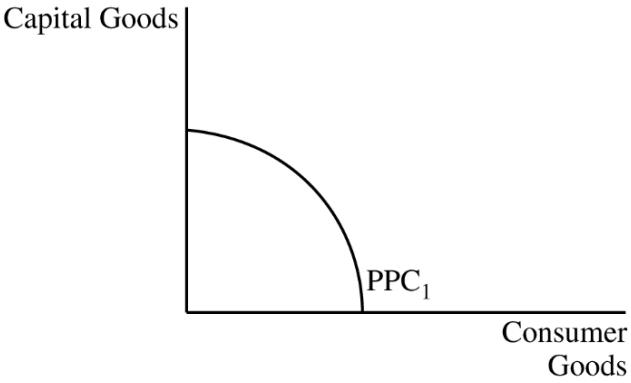
$$\text{Real GDP} = \frac{88{,}000}{200} \times 100 = 44{,}000$$

$$\text{Real GDP per Capita} = \frac{44{,}000}{110} = 400$$

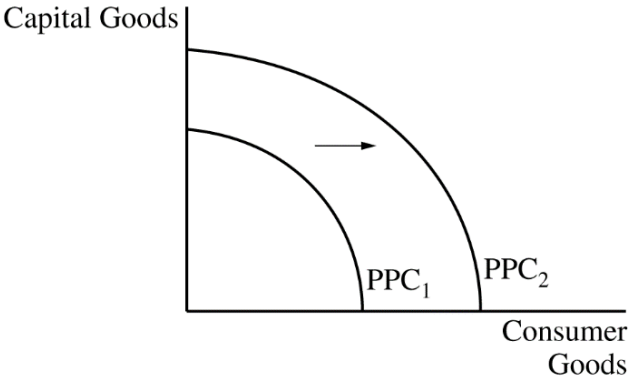
(b) State that the standard of living for the average person in Country A has stayed the same from 2020 to 2021 and explain that real GDP per capita in Country A did not change from 2020 to 2021. — **1 point**

(c) State that an increase in government spending on education will promote economic growth in Country A and explain that human capital will increase and the labor force will become more productive. — **1 point**

(d) Draw a correctly labeled graph of the production possibilities curve. — **1 point**



For the second point, the graph must show an outward shift of the production possibilities curve. — **1 point**



Total for part (d) — **2 points**

Total for question 2 — **5 points**