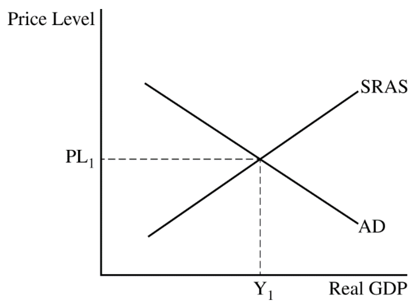
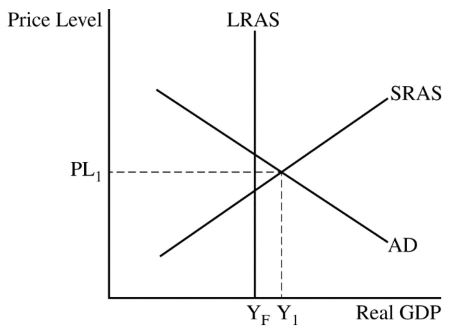
Question 3: Short — 5 points

A Point 1	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.	**1 point**
B Point 2	Calculate the real GDP in Middleland in 2022 as $1,190 and show your work. $\text{Real GDP} = (\$11 \times 50) + (\$4 \times 70) + (\$12 \times 30) = \$1{,}190$	**1 point**
C Point 3	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.	**1 point**



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

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

Question 2: Short — 5 points

(a)	Calculate real GDP in Louland in year 2 as 900,000 and show your work. $\text{Real GDP} = \frac{\text{Nominal GDP}}{\text{GDP Deflator}} \times 100 = \frac{1{,}035{,}000}{115} \times 100 = 900{,}000$	**1 point**
(b)	State that the demand for money would increase and the nominal interest rate would increase.	**1 point**
(c)	State that the standard of living of the average citizen in Louland decreased from year 1 to year 2 and explain that the real GDP per capita in year 1 was 800 and the real GDP per capita in year 2 was 750.	**1 point**
(d)	State that the inflation rate from year 1 to year 2 was 15%.	**1 point**
(e)	State that real wages decreased and explain that nominal wages increased by less than the inflation rate (10% < 15%).	**1 point**
	Total for question 2	**5 points**

Question 2: Short — 5 points

(a)	Calculate the nominal GDP in Maltrose in year 2 as $210 and show your work. $\text{Nominal GDP}_{\text{Year 2}} = (\$13 \times 10) + (\$4 \times 20) = \$210$	**1 point**
(b)	Calculate the GDP deflator in Maltrose in year 2 as 105 and show your work. $\text{GDP Deflator}_{\text{Year 2}} = \frac{\text{Nominal GDP}_{\text{Year 2}}}{\text{Real GDP}_{\text{Year 2}}} \times 100 = \frac{\$210}{(\$10\times10)+(\$5\times20)} \times 100 = 105$	**1 point**
(c)	State that the inflation rate from year 1 to year 2 was 5%.	**1 point**
(d) (i)	State that people living on a fixed income were worse off.	**1 point**
(ii)	State that borrowers with fixed-interest-rate loans were better off because the real value of their debt decreased by more than they expected or because the real interest rate was lower than expected.	**1 point**
	Total for part (d)	**2 points**
	Total for question 2	**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**

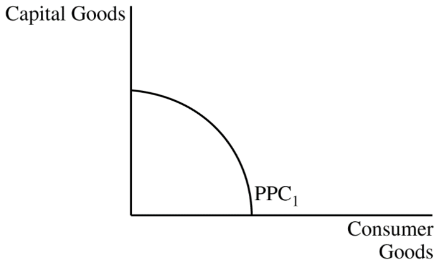
$$\text{Real GDP} = \frac{88{,}000}{200} \times 100 = 44{,}000$$

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

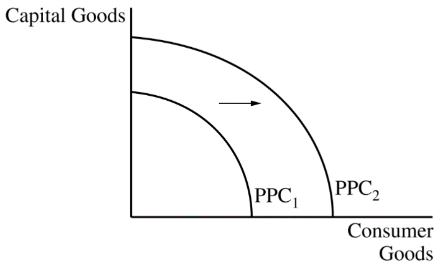
(b) State that the standard of living for the average person in Country A has stayed the same from 2020 to 2021 and explain that real GDP per capita in Country A did not change from 2020 to 2021. — **1 point**

(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

Question 3: Short — 5 points

(a) State that the cyclical rate of unemployment in Flowerland is 2%. — **1 point**

(b) (i) State that aggregate demand will increase and explain that net exports will increase. — **1 point**

(ii) State that cyclical unemployment will decrease. — **1 point**

Total for part (b) — 2 points

(c) Calculate the price index for year 2020 as 130 and show your work. — **1 point**

$$\frac{\text{Value of the market basket in 2020}}{\text{Value of the market basket in 2019}} \times 100 = \frac{(\$4\times40)+(\$25\times4)}{(\$3\times40)+(\$20\times4)} \times 100 = \frac{\$260}{\$200} \times 100 = 130$$

(d) State that the standard of living of the average citizen of Flowerland will decrease and explain that the increase in nominal income (20%) is less than the inflation rate (30%). — **1 point**

Total for question 3 — 5 points