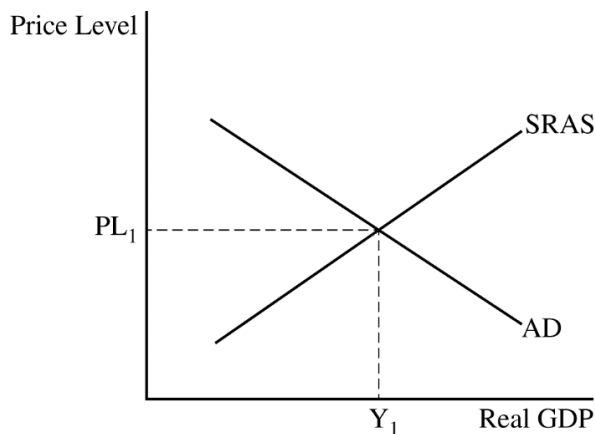


Question 3: Short**5 points**

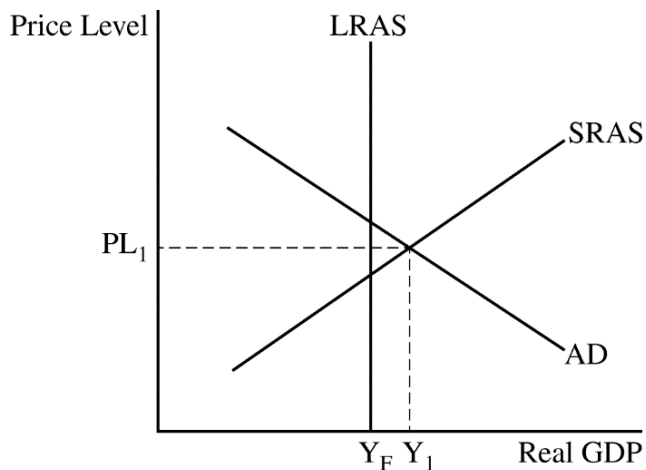
A State that the real GDP in 2021 was equal to the nominal GDP in 2021 and explain that **1 point**
 Point 1 because 2021 is the base year, no price level changes have occurred, and real values always equal nominal values in the base year.

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.

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

Question 2: Short**5 points**

- (a) Calculate real GDP in Louland in year 2 as 900,000 and show your work. **1 point**

$$\text{Real GDP} = \frac{\text{Nominal GDP}}{\text{GDP Deflator}} \times 100 = \frac{1,035,000}{115} \times 100 = 900,000$$

- (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. **1 point**

$$\text{Nominal GDP}_{\text{Year 2}} = (\$13 \times 10) + (\$4 \times 20) = \$210$$

- (b) Calculate the GDP deflator in Maltrose in year 2 as 105 and show your work. **1 point**

$$\text{GDP Deflator}_{\text{Year 2}} = \frac{\text{Nominal GDP}_{\text{Year 2}}}{\text{Real GDP}_{\text{Year 2}}} \times 100 = \frac{\$210}{(\$10 \times 10) + (\$5 \times 20)} \times 100 = 105$$

- (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**

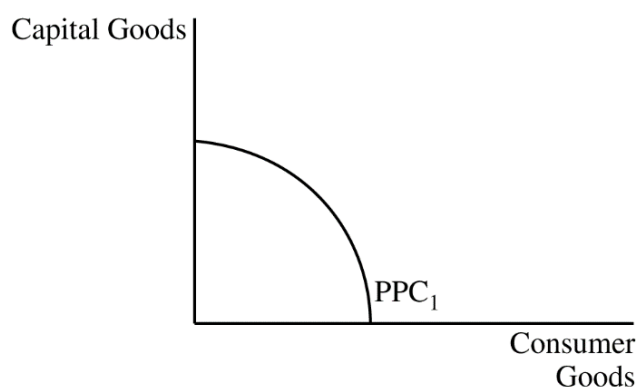
$$\text{Real GDP} = \frac{88,000}{200} \times 100 = 44,000$$

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

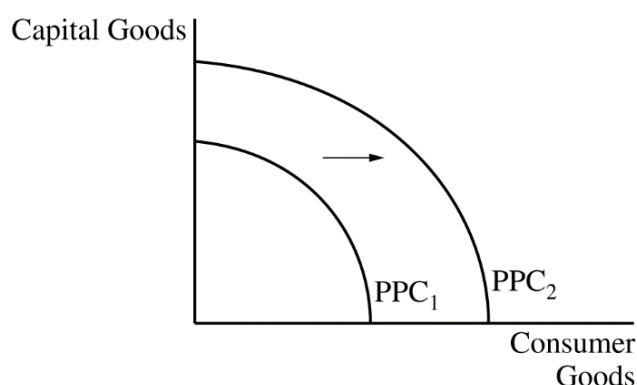
- (b) State that the standard of living for the average person in Country A has stayed the same from 2020 to 2021 and explain that real GDP per capita in Country A did not change from 2020 to 2021. **1 point**

- (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**

$$\frac{\text{Value of the market basket in 2020}}{\text{Value of the market basket in 2019}} \times 100 = \frac{(\$4 \times 40) + (\$25 \times 4)}{(\$3 \times 40) + (\$20 \times 4)} \times 100 = \frac{\$260}{\$200} \times 100 = 130$$

(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