

2024



AP[®] Macroeconomics

Sample Student Responses and Scoring Commentary Set 1

Inside:

Free-Response Question 2

- Scoring Guidelines**
- Student Samples**
- Scoring Commentary**

Question 2: Short**5 points**

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- (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**

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- (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**

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- (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

Important: Completely fill in the circle that corresponds to the question you are answering on this page.

Question 1 Question 2 Question 3



Begin your response to each question at the top of a new page.

~~AD~~

a)
$$\text{Real GDP} = \frac{\text{Nominal GDP}}{\text{GDP deflator}} \times 100$$

$$\begin{aligned} \text{Real GDP} &= \frac{1,035,000}{115} \times 100 \\ &= 900,000 \end{aligned}$$

b) The demand for money would increase driving the nominal interest rates up.

↳ Demand for money increases
Nominal interest rates increase

Year 1

c)
$$\frac{800,000}{1,000} = 800$$

Year 2

$$\frac{900,000}{1,200} = 750$$

Real
it decreased because the GDP per capita in year ~~one~~ 1 was 800, while the real GDP per capita in year 2 was 750, therefore it decreased.

d) 15%

e) It decreases by 5% because inflation is 15% and wages only increased by 10%, so they do not have that extra 5% to make up for inflation.

Use a pen with black or dark blue ink only. Do NOT write your name. Do NOT write outside the box.

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- **Important:** Completely fill in the circle that corresponds to the question you are answering on this page.

Question 1

Question 2

Question 3



Begin your response to each question at the top of a new page.

a) $\frac{\text{nominal}}{\text{real}} \times 100 = \text{Deflator} \rightarrow \frac{\text{nominal}}{\text{Deflator} \div 100} = \text{real} \rightarrow \frac{1,035,000}{1.15} = 900,000$

b) The change in real GDP leads to a decrease in nominal interest rates and the demand for money in Louland.

c) $\frac{900,000}{1200} = 750$ $\frac{1,000,000}{1000} = 1000$ The standard of living in Louland decreased from year 1 to year 2 because in year 1 the GDP per capita was 750 and in year 2 it was 1000.

d) 15%

e) The real wages decreased by 5% because the inflation rate from year 1 to 2 was 15% so the real adjusts so that the difference between the real and nominal wages is 15%.

Use a pen with black or dark blue ink only. Do NOT write your name. Do NOT write outside the box.

Important: Completely fill in the circle that corresponds to the question you are answering on this page.

Question 1

Question 2

Question 3



Begin your response to each question at the top of a new page.

$$\begin{aligned} \text{a) GDP deflator} &= \frac{\text{Nominal GDP}}{\text{Real GDP}} \times 100 \\ \text{Real GDP} &= \frac{\text{Nominal GDP}}{\text{GDP Deflator}} \times 100 \\ \text{Real GDP} &= \frac{1035000}{115} \times 100 \\ \text{Real GDP} &= 9000 \times 100 \\ \text{Real GDP} &= 900,000 \end{aligned}$$

b) Since the Real GDP increased from year 1 to year 2, the demand for money and the nominal interest rate increased.

c) The standard of living in Louland increased because the Real GDP increased which means that the country of Louland is economically growing with most likely more technology. The real GDP had increased 100,000 dollars from the year before. That is 100,000 dollars worth of goods sold in their country more than the first year.

$$\begin{aligned} \text{d) Inflation Rate} &= \frac{\text{Year 2} - \text{Year 1}}{\text{Year 1}} \times 100 \\ &= \frac{1005000 - 770000}{770000} \times 100 \\ &= 0.29375 \times 100 \\ &= 29.375 \end{aligned}$$

the inflation rate from year 1 to year 2 was 29.375%.

e) Since nominal wages do not take into account for inflation, the 10% increase would not affect real wages of the workers. Real wages already consider inflation, so an increase in the nominal wage would have no effect.

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Question 2

Note: Student samples are quoted verbatim and may contain spelling and grammatical errors.

Overview

The question examined students' ability to calculate economic indicators such as real GDP, real GDP per capita, and inflation; to interpret those values; and to explain their effects.

The question begins by providing hypothetical data for the country of Louland, which includes nominal GDP in year 1 and year 2, population in year 1 and year 2, and the GDP deflator in year 2. Students are told that the base year is year 1.

In part (a) students are asked to calculate real GDP in Louland in year 2 and to show their work.

In part (b) students are asked how the change in real GDP from year 1 to year 2 would affect the demand for money and the nominal interest rate in year 2.

In part (c) students are asked if the standard of living of the average citizen in Louland increased, decreased, or remained the same from year 1 to year 2 and to explain using numbers.

In part (d) students are asked for the numerical value of the inflation rate from year 1 to year 2.

Finally, in part (e), students are asked what happened to workers' real wages from year 1 to year 2 if nominal wages increased by 10% during this time and to explain their response.

Sample: 2A

Score: 5

The response earned 1 point in part (a) for calculating the real GDP in Louland as 900,000 and showing the work. The response earned 1 point in part (b) for stating that the demand for money will increase and the nominal interest rate will increase. The response earned 1 point in part (c) for stating that the standard of living of the average citizen will decrease and explaining that real GDP per capita decreased from 800 to 750. The response earned 1 point in part (d) for stating that the inflation rate from year 1 to year 2 was 15%. The response earned 1 point in part (e) for stating that real wages decreased and explaining that nominal wages increased by less than the inflation rate.

Sample: 2B

Score: 3

The response earned 1 point in part (a) for calculating the real GDP in Louland as 900,000 and showing the work. The response did not earn the point in part (b) because it states that the demand for money will decrease, and the nominal interest rate will decrease. The response earned 1 point in part (c) for stating that the standard of living of the average citizen will decrease and explaining that real GDP per capita decreased from 800 to 750. The response earned 1 point in part (d) for stating that the inflation rate from year 1 to year 2 was 15%. The response did not earn the point in part (e) because it does not explain that real wages decreased because nominal wages increased by less than the inflation rate.

Question 2 (continued)

Sample: 2C

Score: 2

The response earned 1 point in part (a) for calculating the real GDP in Louland as 900,000 and showing the work. The response earned 1 point in part (b) for stating that the demand for money will increase and the nominal interest rate will increase. The response did not earn the point in part (c) because it states that the standard of living of the average citizen will increase. The response did not earn the point in part (d) because it states that the inflation rate from year 1 to year 2 was 29.375%. The response did not earn the point in part (e) because it states that real wages will not change.