2024

AP®

AP® Macroeconomics

Sample Student Responses and Scoring Commentary Set 2

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Free-Response Question 2

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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**

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.

2)

a) $\$13 \cdot 10 + \$4 \cdot 20$
$= \$130 + \$80$
$= \$210$

b) Real GDP $= \$10 \cdot 10 + \$5 \cdot 20$
$= \$100 + \$100$
$= \$200$

GDP deflator $= \dfrac{\text{Nominal GDP}}{\text{Real GDP}} \cdot 100$

$= \dfrac{\$210}{\$200} \cdot 100 = 105$

c) 5%

d)
(i) People living on fixed income were worse off.

(ii) The borrowers were better off. This is because real interest rate is nominal interest rate − inflation. Since inflation was higher than expected, the real interest rate was lower than expected. This meant borrowers benefited.

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) $GDP_{N,2} = \$13 \cdot 10 + \$4 \cdot 20 = \boxed{\$210}$

b) $\text{GDP Deflator} = \left(\frac{\text{Nominal GDP}_2}{\text{Real GDP}_2}\right) \cdot 100 = \left(\frac{\$210}{\$10 \cdot 10 + \$5 \cdot 20}\right) \cdot 100 = \boxed{105}$

The Real GDP in year 2 used year 2 quantity with year 1 prices

c) $\boxed{\text{Inflation} = 5\%}$ because the GDP deflator was 105, thus an increase of 1.05 times, which corresponds to 5% inflation

d) i) Inflation was lower, which helps people with fixed incomes, since their money is worth more than what it would be if there was higher Inflation

ii) With less inflation, borrowers are hurt. The future money a borrower has to pay back is worth more than if there was higher inflation, the Fisher Formula proves this, if inflation decreases, the Real Interest Borrowers pay is higher.

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.

(2a) (10·5) + (13·4)

50 + 52 = 102

(2b) (13·4) + (10·20)

52 + 200 = 252

(2c) 15%

(2di) People living on a fixed income would be worse off due to their income losing purchasing power with an increase in price level.

(2dii) Borrowers with fixed interest-rate loans would be better off because the money they are paying back would be worth less than when they borrowed the money.

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

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 nominal GDP, the GDP deflator, and inflation, and to explain the effects of unexpected inflation.

The question begins by providing hypothetical data for the price of food and clothing, the only two goods produced and consumed in the country of Maltrose, in year 1 and year 2. Students are told that the base year is year 1.

In part (a) students are asked to calculate the nominal GDP in Maltrose in year 2 and to show their work.

In part (b) students are asked to calculate the GDP deflator in year 2 and to show their work.

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

Finally, in part (d), students are told to assume that the expected inflation rate between years 1 and 2 was 3% and asked whether the following were better off, worse off, or unaffected as a result of the economic conditions between years 1 and 2: (i) people living on a fixed income and (ii) borrowers with fixed interest-rate loans and to explain.

Sample: 2A
Score: 5

The response earned 1 point in part (a) for calculating the nominal GDP in Maltrose in year 2 as $210 and showing the work. The response earned 1 point in part (b) for calculating the GDP deflator in Maltrose in year 2 as 105 and showing the work. The response earned 1 point in part (c) for correctly stating that the inflation rate from year 1 to year 2 was 5%. The response earned 1 point in part (d)(i) for correctly stating that people living on a fixed income were worse off. The response earned 1 point in part (d)(ii) for correctly stating that borrowers with fixed interest-rate loans were better off and for explaining that the real interest rate was lower than expected.

Sample: 2B
Score: 3

The response earned 1 point in part (a) for calculating the nominal GDP in Maltrose in year 2 as $210 and showing the work. The response earned 1 point in part (b) for calculating the GDP deflator in Maltrose in year 2 as 105 and showing the work. The response earned 1 point in part (c) for correctly stating that the inflation rate from year 1 to year 2 was 5%. The response did not earn the point in part (d)(i) for incorrectly stating that people living on a fixed income were better off. The response did not earn the point in part (d)(ii) for incorrectly stating that borrowers with fixed interest-rate loans were worse off.

Question 2 (continued)

Sample: 2C
Score: 2

The response did not earn the point in part (a) for incorrectly calculating the nominal GDP in Maltrose. The response did not earn the point in part (b) for incorrectly calculating the GDP deflator in Maltrose in year 2. The response did not earn the point in part (c) for incorrectly stating that the inflation rate from year 1 to year 2 was 15%. The response earned 1 point in part (d)(i) for correctly stating that people living on a fixed income were worse off. The response earned 1 point in part (d)(ii) for correctly stating that borrowers with fixed interest-rate loans were better off and for explaining that the real value of their debt decreased by more than they expected.