

A. Practice CPI and inflation problems. SHOW YOUR WORK ON ALL PROBLEMS!

<u>FIXED</u> Basket of Goods and Services						
(2019 is the base year)						
	2019 Price	2019 Quantity	2019 Market Basket (2019 P x 2019 Q)	2020 Price	2020 Quantity	2020 Market Basket (2020 P x 2019 Q)
Good 1	\$2.00	20		\$2.10	18	
Good 2	\$4.00	10		\$4.60	13	
Good 3	\$3.00	40		\$3.30	41	

Based on the table above, do the following calculations. **Show your work!**

1. Calculate the cost of the market basket in each year.
2. Using year 1 as the base year, calculate the CPI for each year.
3. Using the change over time formula and the CPIs for each year, calculate the inflation rate from year 1 to year 2.

Use the information in the table below to calculate the inflation rate from year 1 to year 2. Year 1 is the base year.

<u>The Market Basket Represents a FIXED bundle of Goods and Services</u>						
	Year 1 Price	Year 1 Quantity	Year 1 Market Basket	Year 2 Price	Year 2 Quantity	Year 2 Market Basket
Good 1	\$7.00	20		\$5.25	22	
Good 2	\$20.00	23		\$25.00	20	
Good 3	\$25.00	8		\$40.00	10	
	Year 1 Market Basket Value =			Year 2 Market Basket Value =		

1. Calculate the value of the market basket for each year
2. Calculate the CPI for each year using the market basket
3. Calculate the inflation rate from year 1 to year 2 using the CPIs



Good	Year 1	Year 2	Year 3
1 lb of Apples	\$1.00	\$2.00	\$2.50
1 lb of Bananas	\$.25	\$.50	\$.75
1 Gallon Milk	\$1.75	\$2.50	\$2.75
Cost of Market Basket (COMB)			

Based on the table above, do the following calculations. **Show your work!**

1. Calculate the cost of the market basket in each year.
2. Using year 1 as the base year, calculate the CPI for each year.
3. Using the change over time formula and the CPIs for each year, calculate the inflation rate from year 1 to year 2 and from year 2 to year 3.

B. Effects of inflation:

Identify which people are helped and which are hurt by inflation.

1. A man who lent out \$500 to his friend in 1960 and gets paid back in 2018.
2. A tenant who is charged \$850 rent each year.
3. An elderly couple living off fixed retirement payments of \$2000 a month.
4. A man that borrowed \$1,000 in 1995 and paid it back in 2014.
5. A woman who saved \$500 in 1950 by putting it under her mattress.

C. GDP Deflator Practice SHOW ALL YOUR WORK!

1. In an economy, Real GDP is \$100 billion and the Nominal GDP is \$150 billion. Calculate the GDP deflator.

2. In an economy, Real GDP is \$125 billion and the Nominal GDP is \$150 billion. Calculate the GDP deflator.

3. In an economy, Real GDP for year 2002 is \$200 billion and the GDP deflator 2002 is 120. Calculate the Nominal GDP for 2002.

4. In an economy, Nominal GDP for year 2005 is \$60 billion and the GDP deflator 2005 is 120. Calculate the Real GDP for 2005.

Year	Quantity produced	Price per unit	Nominal GDP	Real GDP	GDP Deflator (Year 3 is base year)	Inflation rate
1	10	\$4				
2	10	\$5				
3* Base year	15	\$6				
4	20	\$8				
5	25	\$4				

D. Released AP Questions

2. Which of the following groups would most likely gain from unanticipated inflation?
- (A) Landlords who own apartments in cities with rent controls
 - (B) Individuals who have fixed retirement incomes
 - (C) Individuals who earn high incomes
 - (D) Individuals who have borrowed money at fixed interest rates
 - (E) Banks that have loaned all excess reserves at a fixed interest rate
34. Which of the following statements is true of unanticipated inflation?
- (A) It decreases the economic well-being of all members of society proportionately.
 - (B) It decreases the economic well-being of all members of society equally.
 - (C) It increases the economic well-being of net creditors.
 - (D) It increases the economic well-being of net debtors.
 - (E) It increases the economic well-being of workers with long-term labor contracts.
41. The consumer price index (CPI) is designed to measure changes in the
- (A) spending patterns of urban consumers only
 - (B) spending patterns of all consumers
 - (C) wholesale price of manufactured goods
 - (D) prices of all goods and services produced in an economy
 - (E) cost of a select market basket of goods and services
7. Hyperinflation is typically caused by
- (A) high tax rates that discourage work effort
 - (B) continuous expansion of the money supply to finance government budget deficits
 - (C) trade surpluses that are caused by strong protectionist policies
 - (D) bad harvests that lead to widespread shortages
 - (E) a large decline in corporate profits that leads to a decrease in production

Released FRQs on inflation and CPI

2019 AP[®] MACROECONOMICS FREE-RESPONSE QUESTIONS

2. Assume the expected inflation rate in a country is 3%, the current unemployment rate is 6%, and the natural rate of unemployment is 4%.
- (a) Draw a correctly labeled graph of the short-run and long-run Phillips curves. Label the current short-run equilibrium as point X and plot the numerical values above on the graph.
 - (b) Is the actual inflation rate greater than, less than, or equal to the expected inflation rate of 3%?
 - (c) Assume loans were made taking into account the expected inflation rate of 3%. Will lenders be better off or worse off after they realize the actual inflation rate identified in part (b) ? Explain.
 - (d) Based on the relationship between the actual and the expected inflation rates identified in part (a), what will happen to the natural rate of unemployment in the long run?

2011 AP[®] MACROECONOMICS FREE-RESPONSE QUESTIONS (Form B)

	2009 Quantity	2009 Price (base year)	2010 Quantity	2010 Price
Food	6	\$2.5	8	\$ 2.5
Clothes	5	\$6	10	\$10
Entertainment	2	\$4	5	\$ 5

3. (a) The outputs and prices of goods and services in Country X are shown in the table above. Assuming that 2009 is the base year, calculate each of the following.
- (i) The nominal gross domestic product (GDP) in 2010
 - (ii) The real GDP in 2010
- (b) If in one year the price index is 50 and in the next year the price index is 55, what is the rate of inflation from one year to the next?
- (c) Assume that next year's wage rate will be 3 percent higher than this year's because of inflationary expectations. The actual inflation rate is 4 percent. At the beginning of next year, will the real wage be higher, lower, or the same as today?
- (d) Assume that Sara gets a fixed-rate loan from a bank when the expected inflation rate is 3 percent. If the actual inflation rate turns out to be 4 percent, who benefits from the unexpected inflation: Sara, the bank, neither, or both? Explain.

OUTPUTS AND PRICES IN GALA LAND

This Year's Output	This Year's Price
400 loaves of bread	\$6 per loaf
1,000 gallons of water	\$2 per gallon
800 pieces of fruit	\$2 per piece

3. Gala Land produces three final goods: bread, water, and fruit. The table above shows this year's output and price for each good.
- Calculate this year's nominal gross domestic product (GDP).
 - Assume that in Gala Land the GDP deflator (GDP price index) is 100 in the base year and 150 this year. Calculate each of the following.
 - The inflation rate, expressed as a percentage, between the base year and this year
 - This year's real GDP
 - Since the base year, workers have received a 20 percent increase in their nominal wages. If workers face the same inflation that you calculated in part (b)(i), what has happened to their real wages? Explain.
 - If the GDP deflator in Gala Land increases unexpectedly, would a borrower with a fixed-interest-rate loan be better off or worse off? Explain.