AP Macro Topic 2.4
Price Indices and Inflation

<u>Part 1: Practice</u>- *In country Davidonia, there are only three goods produced: eggs, bread, and milk. The table includes the prices and quantities purchased of these goods in 2019, 2020, and 2021. Assume that 2019 is the base year.*

Market Basket Items	**2019 Quantity**	**2019 Price**	**2020 Quantity**	**2020 Price**	**2021 Quantity**	**2021 Price**
Eggs	5 dozen	$1	10 dozen	$2	15 dozen	$2
Bread	10 loaves	$1	15 loaves	$1	15 loaves	$2
Milk	20 gallons	$3	25 gallons	$4	30 gallons	$3

1. Calculate the cost of a market basket in the base year. Show your work.
2. Explain why CPI is calculated using the same quantities as the base year instead of different quantities each year?
3. Calculate the CPI for 2019. Show your work.
4. Calculate the CPI for 2020. Show your work.
5. Calculate the CPI for 2021. Show your work.

<u>Part 2: Percent Change Practice</u>- *The nation of Macrostan keeps the same goods in a market basket from year to year and has hired you as its Bureau of Economic Indicator Statistics Chief. Below is the price of the market basket from 2023 to 2028. Use the data to find the inflation rate and CPI for each of the following years.*

<u>Year</u>	<u>Basket Price</u>
2023	$ 45.00
2024	$ 48.00
2025	$ 50.00 (*base year*)
2026	$ 51.50
2027	$ 53.50
2028	$ 54.04

Inflation Rate Between Each Year

5. 2023 to 2024 __________
6. 2024 to 2025 __________
7. 2025 to 2026 __________
8. 2026 to 2027 __________

CPI

2023 _______

2024 _______

2025 _______

2026 _______

<u>Part 3: Check Your Understanding</u>- *Answer the following questions.*

9. Identify two shortcomings or weaknesses of using CPI as a measure of inflation.

10. Assume a country is experiencing disinflation. Would the CPI increase or decrease? Explain.

Video Help: https://bit.ly/2VN9mRw

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11. Assume that the next year's nominal wage rate will be 5% higher than this year's because of inflationary expectations. The actual inflation rate is 3%. At the beginning of next year, will an individual's real wage be higher, lower, or the same as today? Explain.

12. Assume that people expect the inflation rate to be 2% in 2019 but in actuality it turns out to be 5%. If banks gave out a large number of fixed rate loans at a 6% interest rate, who is better off because of the unexpected inflation, the lenders or borrowers? Explain your reasoning.

Part 4: Putting It All Together- *Use the United States CPI data in the table to answer the questions.*

Consumer Price Index 1984-2018

Year	CPI	Year	CPI	Year	CPI	Year	CPI	Year	CPI
1984	104	**1991**	136	**1998**	163	**2005**	195	**2012**	230
1985	108	**1992**	140	**1999**	167	**2006**	202	**2013**	233
1986	110	**1993**	145	**2000**	172	**2007**	207	**2014**	237
1987	114	**1994**	148	**2001**	177	**2008**	215	**2015**	237
1988	118	**1995**	152	**2002**	180	**2009**	214	**2016**	240
1989	124	**1996**	157	**2003**	184	**2010**	218	**2017**	245
1990	131	**1997**	160	**2004**	189	**2011**	225	**2018**	251

https://www.minneapolisfed.org

13. According to this chart, which year saw prices double compared to the base year? Explain how you got your answer.

14. According to this chart, which year had the lowest inflation rate? Explain how you got your answer.

15. Calculate the inflation rate between the years 1997 and 2002. Show your work.

16. Which has more purchasing power, $400 in 1984 or $800 in 2018? Explain your reasoning.

17. If your salary was $30,000 in 1997 and $50,000 in 2017, would you have more purchasing power in 1997 or in 2017? Explain your reasoning?

Part 5: Stretch Your Thinking- *Answer the questions.*

18. The CPI tends to estimate higher rates of inflation than other measures. Use the idea of substitution bias to explain why this occurs.