### **Assessment: Calculating CPI and Inflation Rate**

#### **Question 1: Understanding the Basics**

1. **What is the Consumer Price Index (CPI)?**
	* **Answer:**
2. **What is the Inflation Rate?**
	* **Answer:**

#### **Question 2: Calculating the CPI**

Suppose we have the following data for a hypothetical economy:

| **Item** | **Quantity in Basket** | **Base Year Price (2020)** | **Current Year Price (2023)** |
| --- | --- | --- | --- |
| Bread | 10 loaves | $2.00 per loaf | $2.50 per loaf |
| Milk | 5 gallons | $3.00 per gallon | $3.20 per gallon |
| Eggs | 20 eggs | $0.50 per egg | $0.60 per egg |

a .**Calculate the cost of the basket in the base year (2020).**

**b. Calculate the cost of the basket in the current year (2023).**

 **c.Calculate the CPI for 2023 (using 2020 as the base year).**

* + **Formula:**
	+ CPI=(Cost of Basket in Current Year / Cost of Basket in Base Year)×100

#### **Question 3: Calculating the Inflation Rate**

1. **What is the inflation rate between 2020 and 2023?**
	* **Formula:**
	* Inflation Rate=(CPI in Current Year−CPI in Base Year / CPI in Base Year)×100

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* + **Answer:**

#### **Question 4: Interpretation**

**What does an inflation rate of 17.78% mean?**

#### **Question 5: Real-World Application**

Suppose the CPI for 2024 is 125.00. Calculate the inflation rate between 2023 and 2024.

### **Key Takeaways:**

* The **CPI** measures changes in the price level of a basket of goods and services.
* The **Inflation Rate** measures the percentage increase in the price level over time.
* These calculations help economists and policymakers understand changes in the cost of living and make informed decisions.

**Answers 1**

* + The CPI measures the average change in prices over time that consumers pay for a basket of goods and services. It is used to assess price changes in the cost of living.

* + The inflation rate is the percentage increase in the price level of goods and services over a specific period, typically calculated using the CPI.

**Answer 2**

**a**

* + - Bread:
		- 10×$2.00=$20.00
		- 10×$2.00=$20.00
		- Milk:
		- 5×$3.00=$15.00
		- 5×$3.00=$15.00
		- Eggs:
		- 20×$0.50=$10.00
		- 20×$0.50=$10.00
		- **Total Cost in 2020 = $20 + $15 + $10 = $45.00**

**b**

* + - Bread:
		- 10×$2.50=$25.00
		- 10×$2.50=$25.00
		- Milk:
		- 5×$3.20=$16.00
		- 5×$3.20=$16.00
		- Eggs:
		- 20×$0.60=$12.00
		- 20×$0.60=$12.00
		- **Total Cost in 2023 = $25 + $16 + $12 = $53.00**

**Answer 3**

* + CPI=($53.00$45.00)×100=117.78
	+ CPI=(
	+ $45.00
	+ $53.00
	+ ​
	+ )×100=117.78
		- CPI in 2020 (Base Year) = 100 (by definition).
		- CPI in 2023 = 117.78 (from Question 2).
	+ Inflation Rate=(117.78−100100)×100=17.78%
	+ Inflation Rate=(
	+ 100
	+ 117.78−100
	+ ​
	+ )×100=17.78%

answer 4 A CPI of 117.78 means that the price of the basket of goods and services has increased by **17.78%** since the base year (2020).

Answer 5

* **Formula:**
* Inflation Rate=(CPI in 2024−CPI in 2023CPI in 2023)×100
* Inflation Rate=(
* CPI in 2023
* CPI in 2024−CPI in 2023
* ​
* )×100
* **Answer:**
* Inflation Rate=(125.00−117.78117.78)×100=6.13%
* Inflation Rate=(
* 117.78
* 125.00−117.78
* ​
* )×100=6.13%