

**مسألة**

لدينا المعطيات :

Year	Price of hot dog	Quantity of Hot Dogs	Price of Hamburgers	Quantity of Hamburgers
2010	\$1	100	\$2	50
2011	\$2	150	\$3	100
2012	\$3	200	\$4	150

المطلوب:

**Calculating Nominal GDP**

$$2010 \quad (\$1 \text{ per hot dog} \times 100 \text{ hot dogs}) + (\$2 \text{ per hamburger} \times 50 \text{ hamburgers}) = \$200$$

$$2011 \quad (\$2 \text{ per hot dog} \times 150 \text{ hot dogs}) + (\$3 \text{ per hamburger} \times 100 \text{ hamburgers}) = \$600$$

$$2012 \quad (\$3 \text{ per hot dog} \times 200 \text{ hot dogs}) + (\$4 \text{ per hamburger} \times 150 \text{ hamburgers}) = \$1,200$$

**Calculating Real GDP (base year 2010)**

$$2010 \quad (\$1 \text{ per hot dog} \times 100 \text{ hot dogs}) + (\$2 \text{ per hamburger} \times 50 \text{ hamburgers}) = \$200$$

$$2011 \quad (\$1 \text{ per hot dog} \times 150 \text{ hot dogs}) + (\$2 \text{ per hamburger} \times 100 \text{ hamburgers}) = \$350$$

$$2012 \quad (\$1 \text{ per hot dog} \times 200 \text{ hot dogs}) + (\$2 \text{ per hamburger} \times 150 \text{ hamburgers}) = \$500$$

**Calculating the GDP Deflator**

$$\text{GDP Deflator} = \frac{\text{Nominal GDP}}{\text{Real GDP}} \times 100$$

$$2010 \quad (\$200 / \$200) \times 100 = 100$$

$$2011 \quad (\$600 / \$350) \times 100 = 171$$

$$2012 \quad (\$1,200 / \$500) \times 100 = 240$$

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, Calculating:

the inflation rate

$$\text{Inflation rate in year 2} = \frac{\text{GDP deflator in year 2} - \text{GDP deflator in year 1}}{\text{GDP deflator in year 1}} * 100$$

the GDP deflator rose in year 2011 from 100 to 171, the inflation rate?

the inflation rate is  $\frac{(171 - 100)}{100} * 100 = 71\%$

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$$\text{Inflation rate in year 2} = \frac{\text{CPI in year 2} - \text{CPI in year 1}}{\text{CPI in year 1}} * 100$$

مسألة:

Basket = 4 hot dogs, 2 hamburgers

Year	Price of Hot Dogs	Price of Hamburgers
2010	\$1	\$2
2011	2	3
2012	3	4

: Compute the Cost of the Basket of Goods

2010

$$(\$1 \text{ per hot dog} \times 4 \text{ hot dogs}) + (\$2 \text{ per hamburger} \times 2 \text{ hamburgers}) = \$8 \text{ per basket}$$

2011

$$(\$2 \text{ per hot dog} \times 4 \text{ hot dogs}) + (\$3 \text{ per hamburger} \times 2 \text{ hamburgers}) = \$14 \text{ per basket}$$

2012

$$(\$3 \text{ per hot dog} \times 4 \text{ hot dogs}) + (\$4 \text{ per hamburger} \times 2 \text{ hamburgers}) = \$20 \text{ per basket}$$

**Choose One Year as a Base Year (2010) and Compute the Consumer Price Index in Each Year**

$$\text{Consumer price index} = \frac{\text{Price of basket of goods and services in current year}}{\text{Price of basket in base year}} \times 100.$$

2010	$(\$8 / \$8) \times 100 = 100$
2011	$(\$14 / \$8) \times 100 = 175$
2012	$(\$20 / \$8) \times 100 = 250$

**Use the Consumer Price Index to Compute the Inflation Rate from Previous Year**

$$\begin{aligned} 2011 & (175 - 100) / 100 \times 100 = 75\% \\ 2012 & (250 - 175) / 175 \times 100 = 43\% \end{aligned}$$

مسألة:

**Government statistics show a consumer price index of 15.2 for 1931 and 214.5 for 2009.  
Salary in 1931 dollars = \$80,000  
Salary in 2009 dollars?**

$$\text{Salary in 2009 dollars} = \text{Salary in 1931 dollars} \times \frac{\text{Price level in 2009}}{\text{Price level in 1931}}$$

$$= \$80,000 \times \frac{214.5}{15.2}$$

$$= \$1,128,947$$