

KIA Fresh Graduates Program - Economics

Problem Set 3

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1. Consider Table 1 showing three stages of production of an automobile. The value added by the automobile dealer equals:

- A. \$7,000.
- B. \$18,000.
- C. \$25,000.

Stage of Production	Seller	Buyer	Price
1	Steel factory	Auto manufacturer	\$10,000
2	Auto manufacturer	Auto dealer	\$18,000
3	Auto dealer	Consumer	\$25,000

Table 1: Stages of Production of an Automobile

2. Consider the data in Table 2 (in billions of dollars) for an economy. The Gross domestic product (GDP) for this economy equals:

- A. \$1,100.
- B. \$1,300.
- C. \$1,600.

Category	Billions of dollars
Consumption expenditures	500
Investment expenditures	400
Government purchases	300
Government transfer payments	200
Exports	50
Imports	150

Table 2: Economic Data

3. From the beginning to the ending years of a decade, the annual value of final goods and services for country X increased from €100 billion to €300 billion. During that period, the GDP deflator increased from 111 to 200. Over the decade, real GDP for country X increased by approximately:

- A. 50%.
- B. 67%.
- C. 200%.

Consider the data in Table 3 regarding the production of a simple economy. Assume that all the cotton is used as raw material to produce the coats.

	2020		2021		2022	
	Quantity	Price	Quantity	Price	Quantity	Price
Computers	40	250	45	255	50	250
Food	2000	2	2200	3	2300	4
Coats	300	50	310	52	350	55
Cotton	1000	2	1200	3	1500	4

Table 3: Production Data for a Simple Economy

4. Based on Table 3 and using 2020 as the base year, what is the real GDP for the year 2022?
 - A. \$33,000
 - B. \$34,600
 - C. \$35,000
5. Based on Table 3, what is the GDP deflator for the year 2022 using 2020 as the base year?
 - A. 110.9
 - B. 118.4
 - C. 125.6
6. If the GDP deflator values for Year 1 and Year 3 were 190 and 212.8, respectively, which of the following best describes the annual growth rate of the overall price level?
 - A. 5.8%.
 - B. 6%.
 - C. 12%.

The data in Table 4 below represents a set of goods and services consumed in an economy in 2019, 2020, and 2021.

	2019		2020		2021	
	Quantity	Price	Quantity	Price	Quantity	Price
Clothes	40	10	40	20	50	25
Food	50	6	60	15	60	15
Health services	30	20	45	25	50	30

Table 4: Consumption Data for an Economy

7. Based on the data in Table 4, what was the annual inflation rate in 2021 using 2019 as a base year?
- A. 13.2%
 - B. 15.2%
 - C. 18.9%
8. Suppose you earned a salary of \$12,000 in 2001. If the CPI is 60 in 2001 and 180 in 2022, then to purchase the same amount of goods and services, the value of your salary in 2022 should be:
- A. \$24,000
 - B. \$36,000
 - C. \$48,000

An economic forecasting firm has estimated the following equation from historical data based on the neoclassical growth model:

$$\text{Potential output growth} = 1.5 + 0.72 \times \text{Growth of labor} + 0.28 \times \text{Growth of capital}$$

9. The intercept (1.5) in the equation above is best interpreted as:
- A. the long-run sustainable growth rate.
 - B. the growth rate of total factor productivity.
 - C. above-trend historical growth that is unlikely to be sustained.
10. The coefficient on the growth rate of labor (0.72) in the equation above is best interpreted as:
- A. the labor force participation rate.
 - B. the marginal productivity of labor.
 - C. the share of income earned by labor.