

Quiz #1

Name _____

You have the following information about a land called Hyde Park. These are the only transactions that occur in the economy, all transactions are reported, and all of the goods below are final goods or services.

	Base Year		Current Year	
	Price	Quantity	Price	Quantity
Officially licensed copies of Windows 2000	\$4	2	\$4	2
Genuine 24 Karat Gold PRolex Watches	\$4	2	\$8	3
Rat poison sold in small Ziploc bags	\$4	2	\$3	1

1. (10 pts) What is GDP in the base year?

$$Y^B = P_1^B * Q_1^B + P_2^B * Q_2^B + P_3^B * Q_3^B = \$4 * 2 + \$4 * 2 + \$4 * 2 = \$24$$

2. (10 pts) What is GDP in the current year?

$$Y^C = P_1^C * Q_1^C + P_2^C * Q_2^C + P_3^C * Q_3^C = \$4 * 2 + \$8 * 3 + \$3 * 1 = \$35$$

3. (20 pts) What is the price level in the current year using a GDP deflator price index?

$$P^C = \frac{P_1^C * Q_1^C + P_2^C * Q_2^C + P_3^C * Q_3^C}{P_1^B * Q_1^C + P_2^B * Q_2^C + P_3^B * Q_3^C} = \frac{\$4 * 2 + \$8 * 3 + \$3 * 1}{\$4 * 2 + \$4 * 3 + \$4 * 1} = \frac{\$35}{\$24}$$

4. (10 pts) What is the price level in the base year?

$$P^B = 1$$

5. (15 pts) What is real GDP in the current year (use the GDP deflator only)?

$$y^C = Y^C / P^C = \$35 / (\$35/\$24) = \$24$$

6. (15 pts) What is real GDP in the base year?

$$y^B = Y^B / P^B = \$24 / 1 = \$24$$

7. (10 pts) Suppose quality changes were ignored by those in charge of calculating price indices. Compared to a perfect measure of inflation, would the calculated measure understate inflation, overstate inflation, or accurately calculation inflation?

Failing to account for quality changes will tend to overstate inflation.

8. (5 pts) Suppose the price level in the base year was 1.0, and the price level in the current year was 0.85. Write out the formula to calculate the amount of inflation between the base year and the current year.

$$\text{Inflation} = (P^C - P^B) / P^B = (0.85 - 1) / 1 = -0.15 \quad 15\% \text{ deflation}$$