Homework: Measuring the Macroeconomy

ECO 120: Global Macroeconomics

Production and Inflation

	2023 Price	2023 Quantity	2024 Price	2024 Quantity
Veggie Burgers	$15	20	$16	22
Veggie Chili	$12	14	$13	18

1. Compute nominal GDP for 2023 and 2024.

2. Use 2023 as a base year and compute real GDP for 2023 and 2024.

3. Compute the price level with the GDP deflator for 2023 and 2024, using 2023 as a base year.

4. Define the **inflation rate**. Compute the inflation rate from 2023 and 2024 using your answers above.

5. Suppose in 2023 you earned a nominal wage of $15 per hour and in 2024 you earned $16 per hour. Use these nominal wages and the GDP deflator measure of the price level to compute your real wage for each year. In terms of purchasing power of wages, do you think you earned more in 2023 or 2024? Explain.

Types of Unemployment

6. With recent improvements in technological automation, automobile production in manufacturing facilities have become increasingly automated. As a result, there has been a permanent reduction in demand for automobile manufacturing employment in the United States. What type of unemployment does this cause? Explain.

7. Suppose more college students are graduating than usual, leading new graduates to start looking for work. What type of unemployment may this cause? Explain.

8. Suppose sales for goods and services are down across the economy, and businesses respond by reducing production and laying off employees. What type of unemployment is this? Explain.

Labor Force and Unemployment

9. LoompaLand (working-age pop. 10,000)

- 5,000 are employed at Willy Wanka's Chocolate Factory
- 1,800 are employed as chocolate industry spies by Sluggworth's Chocolates
- 1,000 are employed as vocalists in the local music industry
- 700 Oompa Loompas are looking for jobs, but are not yet employed
- 650 Oompa Loompas are not employed, but are not looking for jobs because they became frustrated and gave up trying to find a job
- 850 Oompa Loompas are retired, not interested in working.

Questions

a) Define the **labor force participation rate**. Compute the labor force participation rate for LoompaLand.

b) Define the **unemployment rate**. Compute the unemployment rate for LoompaLand.

c) Define **discouraged worker**. How many discouraged workers are there in LoompaLand?