# Macroeconomics Unit 2
# Free Response Questions

**FRQ #1**- See video in Ultimate Review Packet for detailed explanations.

| | |
|---|---|
| Employed full-time | 150,000 |
| Employed part-time | 10,000 |
| Frictionally unemployed | 15,000 |
| Structurally unemployed | 5,000 |
| Cyclically unemployed | 20,000 |
| Of working-age, but not in the labor force | 200,000 |

(a) Calculate the unemployment rate in Country A. Show your work. Unemployment rate = 20%. Total number of unemployed workers is 40,000 and the labor force is 200,000 (this includes full-time and part-time employed workers and unemployed workers). 40,000/200,000 × 100 = 20%.

(b) Is the natural rate of unemployment for Country A greater than, less than, or equal to your answer in part (a)? The natural rate of unemployment is less than 20%. The natural rate of unemployment includes only workers that are frictionally and structurally unemployed. The natural rate of unemployment is only 10%. (20,000/200,000 × 100 = 10%).

(c) Calculate the labor force participation rate in Country A. Show your work. The labor force participation rate = 50%. 200,000/400,000 × 100 = 50%.

(d) Assume that many of the people that were not in the labor force permanently moved to another country. Would the labor force participation rate in Country A increase, decrease, or stay the same? Explain. The labor force participation rate would increase. The total number of working-age individuals would decrease but the number of people in the labor force would stay the same. Therefore, the percent of people participating in the labor force would be higher.

(e) Assume instead that 10,000 cyclically unemployed people were able to get part-time jobs. Calculate the new unemployment rate. Show your work. Unemployment rate = 15%. Total number of unemployed workers is 30,000 and the labor force is still 200,000. 30,000/200,000 × 100 = 15%.

**FRQ #2**- See video in Ultimate Review Packet for detailed explanations.

| | 2020 Quantity | 2020 Price (base year) | 2021 Quantity | 2021 Price |
|---|---|---|---|---|
| Apples | 25 | $1 | 30 | $5 |
| Shoes | 5 | $8 | 7 | $10 |
| Hats | 15 | $4 | 16 | $5 |

(a) Calculate the nominal gross domestic product (GDP) in 2020. Show your work. Nominal GDP for 2020 is $125. This is the total of the 2020 quantities times the 2020 prices. $25 + $40 + $60.

(b) Calculate the real GDP in 2021. Show your work. Real GDP for 2021 is $150. This is the total of the 2021 quantities times the 2021 prices. $30 + $56 + $64. The 2020 prices are used since 2020 is the base year.

(c) Calculate the GDP deflator for 2021. Show your work. GDP deflator is 200. The real GDP for 2021 is $150 and the nominal GDP for 2021 is $300 ($150 + $70 + $80). The deflator is the nominal GDP divided by the real GDP times 100. ($300/$150) x 100 = 200

(d) Assume that in 2018 wages increased 20% and the inflation rate was 50%. Did real wages in 2018 increase, decrease, or stay the same? Explain. Real wages decreased. The inflation rate was higher than the increase in wages. Inflation erodes the purchasing power of the wages at a faster rate than the ages increased.

(e) Assume that Chris got a fixed-rate loan from a lender when the expected inflation rate was 30%. If the actual inflation rate turned out to be 50% percent, who benefited from the unexpected inflation: Chris or the bank? Explain. Chris benefited because borrowers are better off than lenders when there is unexpectedly higher inflation. Chris paid back the loan when there was higher inflation and the purchasing power of each dollar was less.

Video Help: https://youtu.be/mIQ4ddp6YHQ

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