Unit 2, Part 1: Measurement of Economic Performance

(GDP and Unemployment)

Exam Dates

Multiple Choice:

Advanced Placement Macroeconomics Unit 2, <u>Part 1</u> - Overview - Measuring Economic Performance

<u>Unit 2, Part 1 Tests (Within a day or two)</u>

Multiple Choice Test:

<u>Textbook Pages For Part 1 Test</u>
1. Chapter 6 all except pages 113 - 116. Stop reading at "National Income" on page 113 and start reading again at "Nominal GDP versus Real GDP" on page 116.
2. Chapter 7 up to 134 "Inflation"

<u>Graphs for Graphing Test</u>
No graphing test

<u>Key Concepts for Part 1 Test</u>
Real GDP, nominal GDP, unemployment, unemployment rate, natural rate of unemployment, recession, trough, recovery, labor force, frictional unemployment, structural unemployment, cyclical unemployment, full employment rate, natural rate of unemployment.

<u>Reading Due Dates. GO FOR UNDERSTANDING!</u>
1. Outline Collection –_____-
Chapter 6, pages 106 and 107 all, 118 and 119 "Shortcomings of GDP" to the end

2. Outline Collection - _____ -
Chapter 7, pages 131 "Economic cost of Unemployment" to page 134 "Inflation."

<u>Crucial Activities for Part 1 Test</u>
1. Outline chapter 6, pages 106 and 107 all, 118 and 119 "Shortcomings of GDP" to the end
2. Macroeconomics Lesson 2, Activity 12 All about GDP
3. GDP Lecture with Dave Mayer PowerPoint
4. Question 8, page 122 - Calculate GDP using the Expenditures approach
5. Question 8, page 122 - Calculate the Adjustment to GDP using the Income Approach
6. Gross Domestic Product (GDP) & How to Measure it.
7. Calculate Missing values in tables 6.5.
8. Calculate Missing values in table 6.7
9. Macroeconomics Lesson 2, Activity 11 measuring short-run economic growth
10. PowerPoint - The Business Cycle
10. Outline pages 131 "Economic cost of Unemployment" to page 134 "Inflation."
12. Macroeconomics Lesson 2, Activity 11 Measuring Broad Economic Goals
13. Macroeconomics Lesson 4, Activity Types of Unemployment
14. Unit 2, Part 1 Practice Test

Name _____ Hour _____

All About GDP

Part A
Is This Counted as Part of GDP?
Which of the following are *included* and which are *excluded* in calculating GDP? Explain your decisions.

1. A monthly check received by an economics student who has been granted a government scholarship

2. A farmer's purchase of a new tractor

3. A plumber's purchase of a two-year-old used truck

4. Cashing a U.S. government bond

5. The services of a mechanic in fixing the radiator on his own car

6. A Social Security check from the government to a retired store clerk

7. An increase in business inventories

8. The government's purchase of a new submarine for the Navy

9. A barber's income from cutting hair

10. Income received from the sale of Nike stock

Name _____ Hour _____

Part B
GDP: Is It Counted and Where?

For each of the following items, write one of the following in the space provided:

C if the item is counted as *consumption spending*.
I if the item is counted as *investment spending*.
G if the item is counted as *government spending*.
NX if the item is counted as *net exports*.
NC if the item is *not counted* in GDP.

____ 11. You spend $7.00 to attend a movie.

____ 12. A family pays a contractor $100,000 for a house he built for them this year.

____ 13. A family pays $75,000 for a house built three years ago.

____ 14. An accountant pays a tailor $175 to sew a suit for her.

____ 15. The government increases its defense expenditures by $1,000,000,000.

____ 16. The government makes a $300 Social Security payment to a retired person.

____ 17. You buy General Motors Corp. stock for $1,000 in the stock market.

____ 18. At the end of a year, a flour-milling firm finds that its inventories of grain and flour are $10,000 above the amounts of its inventories at the beginning of the year.

____ 19. A homemaker works hard caring for her spouse and two children.

____ 20. Ford Motor Co. buys new auto-making robots.

____ 21. You pay $300 a month to rent an apartment.

____ 22. Apple Computer Co. builds a new factory in the United States.

____ 23. R.J. Reynolds Co. buys control of Nabisco.

____ 24. You buy a new Toyota that was made in Japan.

____ 25. You pay tuition to attend college.

Name _____ Hour _____

Part C
Why Are Items Counted or Not Counted in GDP?

26. We count only the final retail price of a new good or service in GDP. Why?

27. A purely financial transaction will not be counted in GDP. Why?

28. When a homeowner does home-improvement work, the value of the labor is not counted in GDP. Why?

GDP PowerPoint Lecture- Page 1

GDP PowerPoint Lecture - Page 2

GDP PowerPoint Lecture <u>& Page 122, Question 8</u>

Name _____ Hour _____

GROSS DOMESTIC PRODUCT (GDP) AND HOW TO MEASURE IT

Unit 6, Lesson 33

Handout Material

Events Affecting Spending on Consumption, Investment, Government Spending, or Net Exports

Due to a tax cut, consumers decide to buy more new cars. **1**	*Worried about an increasing budget deficit, the government decides to buy fewer military planes.* **2**	*Increasing prices in the U.S. encourage Americans to buy more foreign goods.* **3**
Due to a tax increase, consumers decrease purchases on vacation travel. **4**	*Due to increased incomes, Europeans buy more U.S. goods and services.* **5**	*A foreign government imposes a tariff that discourages its citizens from buying goods from the U.S.* **6**
Businesses are optimistic about the future and increase construction of new factories. **7**	*Many more Americans decide to buy Japanese cars rather than American cars.* **8**	*Households worry about future unemployment and decide to spend less income.* **9**
Because interest rates increased, businesses cut back on spending for new machinery. **10**	*Consumers feel good about the future and take out loans to buy more durable goods such as washing machines.* **11**	*Decreases in interest rates encourage businesses to take out loans to construct more buildings.* **12**
To fight unemployment, the government decides to hire more people to work in national parks. **13**	*Tax cuts to businesses give businesses incentives to buy more computers.* **14**	*To stimulate the economy and provide jobs, the government builds more bridges in California.* **15**

Name _____ Hour _____

Year	(1) Units of Output	(2) Price of Pizza per Unit	(3) Price Index (Year 1 = 100)	(4) Unadjusted, or Nominal, GDP, (1) × (2)	(5) Adjusted, or Real, GDP	Percentage change in GDP From Year to year, Base Year is Year 1	Price Index, base year is year 5	Adjusted, or Real GDP with Base Year of 5:	Percentage change in GDP From Year to year, Base Year is Year 5
1	5	$10	100	$ 50	$50				
2	7	20	200	140	70				
3	8	25	250	200	80				
4	10	30	—	—	—				
5	11	28	—	—	—				

(1) Year	(2) Nominal GDP, Billions of $	(3) Real GDP, Billions of $	(4) GDP Price Index (2000 = 100)
1980	2789.5	5161.7	___
1985	4220.3	6053.7	69.7
1990	5803.1	___	81.6
2000	9817.0	9817.0	100.0
2003	10,960.8	___	106.4
2007	13,841.3	11,566.8	119.6

Source: Bureau of Economic Analysis, www.bea.gov.

Part C
Measuring Short-Run Economic Growth

To measure fluctuations in output (short-run economic growth), we measure increases in the quantity of goods and services produced in the economy from quarter to quarter or year to year. The *gross domestic product*, or GDP, is commonly used to measure economic growth. The GDP is the dollar value at market prices of all final goods and services produced in the economy during a stated period.

Final goods are goods intended for the final user. For example, gasoline is a final good; but crude oil, from which gasoline and other products are derived, is not.

Before using GDP to measure output growth, we must first adjust GDP for price changes. Let's say GDP in Year 1 is $1,000 and in Year 2 it is $1,100. Does this mean the economy has grown 10 percent between Year 1 and Year 2? Not necessarily. If prices have risen, part of the increase in GDP in Year 2 will merely represent the increase in prices. We call GDP that has been adjusted for price changes *real* GDP. If it isn't adjusted for price changes, we call it *nominal* GDP.

To compute real GDP in a given year, use the following formula:

Real GDP in Year 1 = (nominal GDP x 100) / price index

To compute real output growth in GDP from one year to another, subtract real GDP for Year 2 from real GDP in Year 1. Divide the answer (the change in real GDP from the previous year) by real GDP in Year 1. The result, multiplied by 100, is the percentage growth in real GDP from Year 1 to Year 2. (If real GDP declines from Year 1 to Year 2, the answer will be a negative percentage.) Here's the formula:

$$\text{Output growth} = \frac{(\text{real GDP in Year 2} - \text{real GDP in Year 1})}{\text{real GDP in Year 1}} \times 100$$

For example, if real GDP in Year 1 = $1,000 and in Year 2 = $1,028, then the output growth rate from Year 1 to Year 2 is 2.8%: (1,028 − 1,000) / 1,000 = .028, which we multiply by 100 in order to express the result as a percentage.

To understand the impact of output changes, we usually look at real GDP per capita. To do so, we divide the real GDP of any period by a country's average population during the same period. This procedure enables us to determine how much of the output growth of a country simply went to supply the increase in population and how much of the growth represented improvements in the standard of living of the entire population. In our example, let's say the population in Year 1 was 100 and in Year 2 it was 110. What was real GDP per capita in Years 1 and 2?

Year 1

$$\text{Real GDP per capita} = \frac{\text{Year 1 real GDP}}{\text{population in Year 1}} = \frac{\$1,000}{100} = \$10$$

Year 2

$$\text{Real GDP per capita} = \frac{\$1,028}{110} = \$9.30$$

Name _____ Hour _____

In this example, the average standard of living fell even though output growth was positive. Developing countries with positive output growth but high rates of population growth often experience this condition.

Now try these problems using the information in Figure 11.3.

✳ Figure 11.3
Nominal and Real GDP

|	Nominal GDP	Price Index	Population
Year 3	$5,000	125	11
Year 4	$6,600	150	12

8. What is the real GDP in Year 3? _____

9. What is the real GDP in Year 4? _____

10. What is the real GDP per capita in Year 3? _____

11. What is the real GDP per capita in Year 4? _____

12. What is the rate of real output growth between Years 3 and 4? _____

13. What is the rate of real output growth per capita between Years 3 and 4? _____
    (Hint: Use per-capita data in the output growth rate formula.)

The Business Cycle and Unemployment - Power Point Notesheet

I. The Business Cycle
A. The United States' GDP is not constant from year to year.
B. Instead, the GDP grows most years and then shrinks in some years.
C. The ups and downs in GDP over time is referred to as the business cycle

II. The Business Cycle Illustrated:
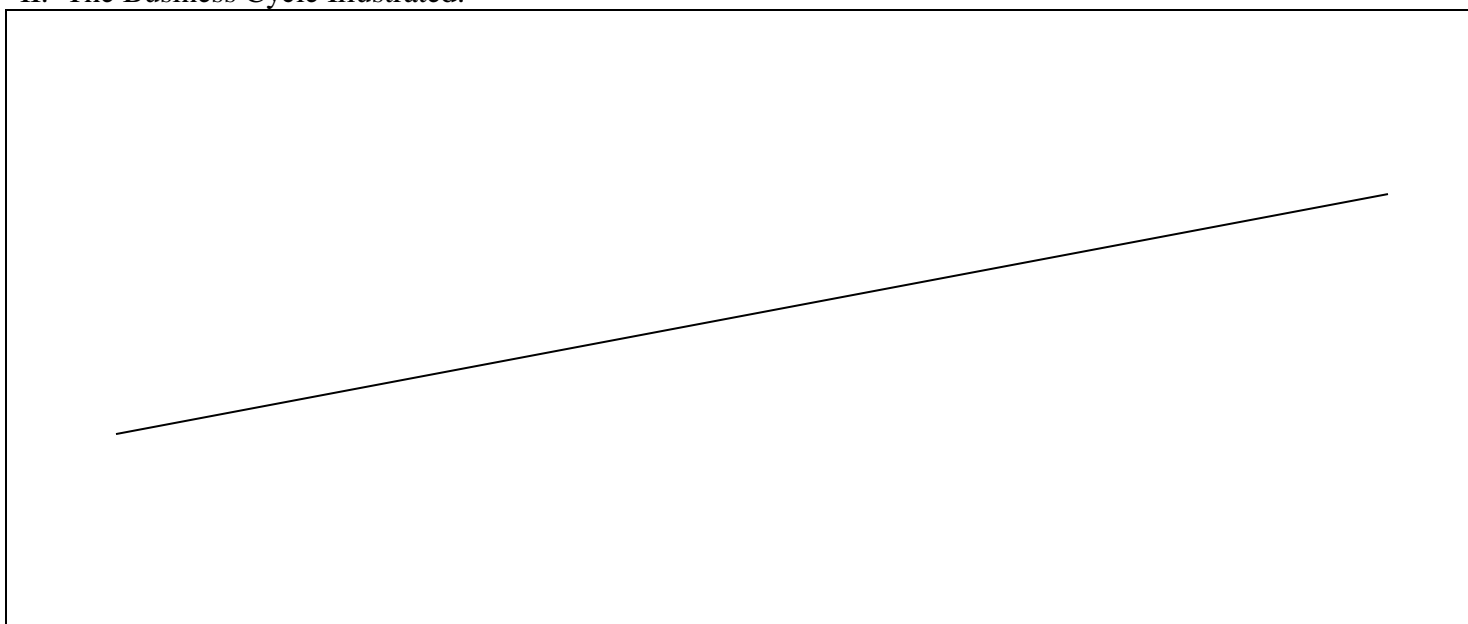
A. Peak:
-

At this point, the unemployment rate (u%) is probably _____

And the inflation rate (∏%) is probably _____.

B. Recession (or Contraction)
-

A period of decline in _____ accompanied by an increase in _____

_____.

To be classified as a recession, the economic decline must be at least _____.

C. Trough
-

The _____ and _____.

D. Recovery
-

E. Phases and Turning Points
    1. Peaks, Recessions, Troughs, and Recoveries are all sometimes called "phases" of the business cycle.

    2. It is more accurate to refer to PEAKS / RECESSIONS / TROUGHS / RECOVERIES as "Phases" since they last for a period of time.

    3. PEAKS / RECESSIONS / TROUGHS / RECOVERIES are more accurately referred to as "Turning Points" since they mark the moments when we change from one phase to the other.

F. Important note
    1. The various phases of the business cycle last for different amounts of time

    2. In recent history, expansions have lasted years longer than have recessions.

    3. The Great Depression is the most notable example of a long recession/trough

G. Causes

    1. -

    2. -

    3. * -

H. _____ is most susceptible to the effects of the business cycle.

I. Business cycle has become less severe because of technological advancements in supply-chain management and structural changes in the U.S. economy.

Unemployment

III. Unemployment.

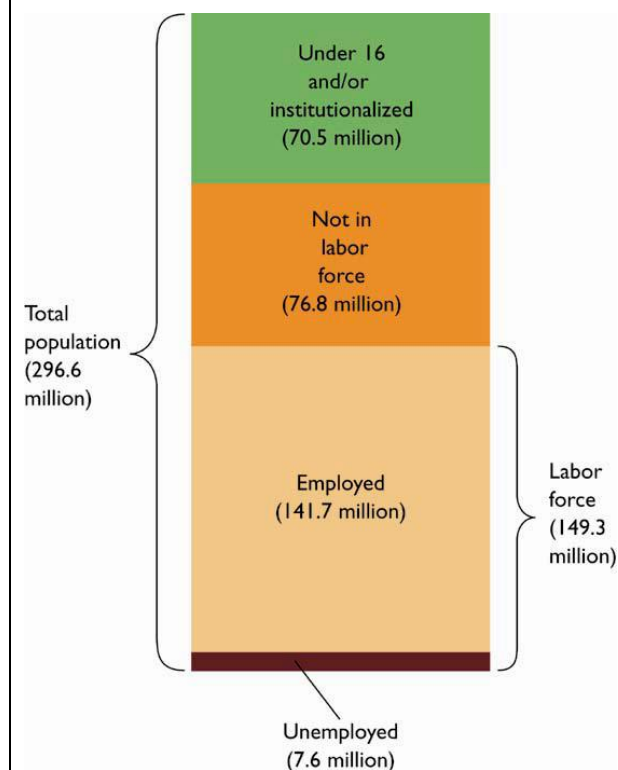|	
A. Population - - B. Labor Force - - - Labor Force Participation Rate - C. Employed - - - It doesn't matter if it's part-time or full-time, as long as they work at least 1 hour every 2 weeks. D. Unemployed - - - Unemployment rate = (Here we diverge from the PowerPoint) E. Those under 16 or institutionalized - These people cannot be in the labor force. Economically, they do not exist. F. Not in labor force (but could be) - Those over 16 and not institutionalized, who could work, but choose not to. They are not seeking employment.	Under 16 and/or institutionalized (70.5 million) Not in labor force (76.8 million) Total population (296.6 million) Employed (141.7 million) Labor force (149.3 million) Unemployed (7.6 million)

IV. Types of Unemployment

A. Frictional -

B. Structural -

C. Cyclical -

D. Seasonal -

V. Full Employment
A. Occurs when…

B. Associated with the Natural Rate of Unemployment (NRU)
    1. -

    2. The United States' NRU is approximately _____.

C. Associate Full Employment (FE) with the PPC, the long-run aggregate supply (LRAS) and the long-run Phillips curve (LRPC) - Which we will discuss later.

VI. Why Unemployment is bad.
A. Okun's Law -

B. The burden of unemployment is not equally shared in society

C. It causes social unrest and is hard on _____.

Measuring Broad Economic Goals

Overview

The 1930s were marked by periods of chronically high unemployment in the United States. After World War II, Congress passed the Employment Act of 1946, which stated that it was the policy and responsibility of the federal government to use all practical means to promote maximum employment, production and purchasing power. The Employment Act of 1946 established three important goals for the economy:

1. *Full employment* (also called the natural level of employment) exists when most individuals who are willing to work at the prevailing wages in the economy are employed and the average price level is stable. Even under conditions of full employment, there will be some temporary unemployment as workers change jobs and as new workers seek their first jobs (*frictional* unemployment). In addition, there will be some *structural* unemployment. Structural unemployment exists because there is a mismatch between the skills of the people seeking jobs and the skills required for available jobs.

2. *Price stability* exists when the average level of prices in the economy is neither increasing nor decreasing. The goal of price stability does not imply that prices of individual items should not change — only that the average level of prices should not. A sustained rise in the average level of prices is called *inflation*; a sustained decline is called *deflation*.

3. *Economic growth* exists when the economy produces increasing amounts of goods and services over the long term. If the increase is greater than the increase in population, the amount of goods and services available per person will rise, and thus the nation's standard of living will improve.

In 1978, Congress passed the Full Employment and Balanced Growth (Humphrey-Hawkins) Act establishing two additional goals: an unemployment rate of 4 percent with a zero-percent inflation rate.

Measuring the Achievement of Economic Goals

To determine how well we are achieving the economic goals, we must measure the levels of employment, prices and economic growth. We look at how such measurements are commonly made.

Part A
Measuring Employment

The civilian unemployment rate measures how well we are achieving the goal of full employment. The unemployment rate is derived from a national survey of about 60,000 households. Each month the federal government asks these households about the employment status of household members aged 16 and older (adult population). The survey puts each person in one of three categories: employed, unemployed or not in the labor force. People who are at work (the employed) plus those who are actively looking for work (the unemployed) make up the *labor force*. The labor force is much smaller than the total adult population because many individuals are too old to work, some people are unable to work and some choose not to work.

Name _____ Hour _____

The *unemployment rate* (UR) is defined as

$$UR = \frac{number\ of\ unemployed}{labor\ force} \times 100$$

The *labor force participation rate* (LFPR) is defined as:

$$LFPR = \frac{number\ in\ labor\ force}{adult\ population} \times 100$$

How well has the U.S. economy met the goal of full employment? Use the formulas just given to fill in the last three columns of Figure 11.1. All of the population and labor-force data are in millions.

Figure 11.1
Civilian Employment 1960 to 2000

Year	Civilian Noninstitutional Population Aged 16 and Over	Civilian Labor Force			Unemployment Rate	Labor Force Participation Rate
		Employed	Unemployed	Total		
1960	117	66	4			
1970	137	79	4			
1980	168	99	8			
1990	188	117	7			
2000	209	135	6			

1. In which year was the economy very close to full employment as indicated in the Humphrey-Hawkins Act?

2. Why has the labor force participation rate increased since the 1960s?

3. Do the data on the national unemployment rate in Figure 11.1 reflect the extent of unemployment among a particular group in our society, such as teenagers aged 16 to 19? Explain.

Name _____ Hour _____

Types of Unemployment

There are three types of unemployment:

■ *Frictional unemployment* includes people who are temporarily between jobs. They may have quit one job to find another, or they could be trying to find the best opportunity after graduating from high school or college.

■ *Cyclical unemployment* includes people who are not working because firms do not need their labor due to a lack of demand or a downturn in the business cycle. For example, if people are not buying many goods and services, workers are laid off.

■ *Structural unemployment* involves mismatches between job seekers and job openings. Unemployed people who lack skills or do not have sufficient education are structurally unemployed.

At full employment, we have frictional and structural unemployment, but cyclical unemployment would be zero. At full employment, the level of unemployment is called the *natural rate of unemployment.*

For each of the following situations, put the appropriate letter before the example.

F if it is an example of *frictional* unemployment.

C if it is an example of *cyclical* unemployment.

S if it is an example of *structural* unemployment.

____ 1. A computer programmer is laid off because of a recession.

____ 2. A literary editor leaves her job in New York to look for a new job in San Francisco.

____ 3. An unemployed college graduate is looking for his first job.

____ 4. Advances in technology make the assembly-line worker's job obsolete.

____ 5. Slumping sales lead to the cashier being laid off.

____ 6. An individual refuses to work for minimum wage.

____ 7. A high school graduate lacks the skills necessary for a particular job.

____ 8. Workers are laid off when the local manufacturing plant closes because the product made there isn't selling.

____ 9. A skilled glass blower becomes unemployed when a new machine does her job faster.