PROBLEMS

All problems are available on www.myeconlab.com

1. For each of the following, describe some of the potential opportunity costs:
   a. Studying for your economics test
   b. Spending 2 hours playing computer games
   c. Buying a new car instead of keeping the old one
   d. A local community voting to raise property taxes to increase school expenditures and to reduce class size
   e. A number of countries working together to build a space station
   f. Going to graduate school
2. "As long as all resources are fully employed and every firm in the economy is producing its output using the best available technology, the result will be efficient." Do you agree or disagree with this statement? Explain your answer.
3. You are an intern to the editor of a small-town newspaper in Mallsburg, Pennsylvania. Your boss, the editor, asks you to write the first draft of an editorial for this week's paper. Your assignment is to describe the costs and the benefits of building a new bridge across the railroad tracks in the center of town. Currently, most people who live in this town must drive 2 miles through thickly congested traffic to the existing bridge to get to the main shopping and employment center. The bridge will cost the citizens of Mallsburg $25 million, which will be paid for with a tax on their incomes over the next 20 years. What are the opportunity costs of building this bridge? What are the benefits that citizens will likely receive if the bridge is built? What other factors might you consider in writing this editorial?
4. Kristen and Anna live in the beach town of Santa Monica. They own a small business in which they make wristbands and pot holders and sell them to people on the beach. As shown in the table on the following page, Kristen can make 15 wristbands per hour but only 3 pot holders. Anna is a bit slower and can make only 12 wristbands or 2 pot holders in an hour.

	OUTPUT PER HOUR	
	WRISTBANDS	POT HOLDERS
Kristen	15	3
Anna	12	2

   a. For Kristen and for Anna, what is the opportunity cost of a pot holder? Who has a comparative advantage in the production of pot holders? Explain your answer.
   b. Who has a comparative advantage in the production of wristbands? Explain your answer.
   c. Assume that Kristen works 20 hours per week in the business. Assuming Kristen is in business on her own, graph the possible combinations of pot holders and wristbands that she could produce in a week. Do the same for Anna.
   d. If Kristen devoted half of her time (10 out of 20 hours) to wristbands and half of her time to pot holders, how many of each would she produce in a week? If Anna did the same, how many of each would she produce? How many wristbands and pot holders would be produced in total?
   e. Suppose that Anna spent all 20 hours of her time on wristbands and Kristen spent 17 hours on pot holders and 3 hours on wristbands. How many of each item would be produced?
   f. Suppose that Kristen and Anna can sell all their wristbands for $1 each and all their pot holders for $5.50 each. If each of them worked 20 hours per week, how should they split their time between wristbands and pot holders? What is their maximum joint revenue?
5. Briefly describe the trade-offs involved in each of the following decisions. Specifically, list some of the opportunity costs associated with each decision, paying particular attention to the trade-offs between present and future consumption.
   a. After a stressful senior year in high school, Sherice decides to take the summer off instead of working before going to college.
   b. Frank is overweight and decides to work out every day and to go on a diet.
   c. Mei is diligent about taking her car in for routine maintenance even though it takes 2 hours of her time and costs $100 four times each year.
   d. Jim is in a hurry. He runs a red light on the way to work.

*6. The countries of Figistan and Blah are small island countries in the South Pacific. Both produce fruit and timber. Each island has a labor force of 1,200. The following table gives production per month for each worker in each country.

	BASKETS OF FRUIT	BOARD FEET OF TIMBER
Figistan workers	10	5
Blah workers	30	10

Productivity of one worker for one month

   a. Which country has an absolute advantage in the production of fruit? Which country has an absolute advantage in the production of timber?
   b. Which country has a comparative advantage in the production of fruit? of timber?
   c. Sketch the ppf's for both countries.
   d. Assuming no trading between the two, if both countries wanted to have equal numbers of feet of timber and baskets of fruit, how would they allocate workers to the two sectors?
   e. Show that specialization and trade can move both countries beyond their ppf's.

7. Suppose that a simple society has an economy with only one resource, labor. Labor can be used to produce only two commodities—*X*, a necessity good (food), and *Y*, a luxury good (music and merriment). Suppose that the labor force consists of 100 workers. One laborer can produce either 5 units of necessity per month (by hunting and gathering) or 10 units of luxury per month (by writing songs, playing the guitar, dancing, and so on).
   a. On a graph, draw the economy's ppf. Where does the ppf intersect the *Y*-axis? Where does it intersect the *X*-axis? What meaning do those points have?
   b. Suppose the economy produced at a point *inside* the ppf. Give at least two reasons why this could occur. What could be done to move the economy to a point *on* the ppf?
   c. Suppose you succeeded in lifting your economy to a point on its ppf. What point would you choose? How might your small society decide the point at which it wanted to be?
   d. Once you have chosen a point on the ppf, you still need to decide how your society's production will be divided. If you were a dictator, how would you decide? What would happen if you left product distribution to the free market?

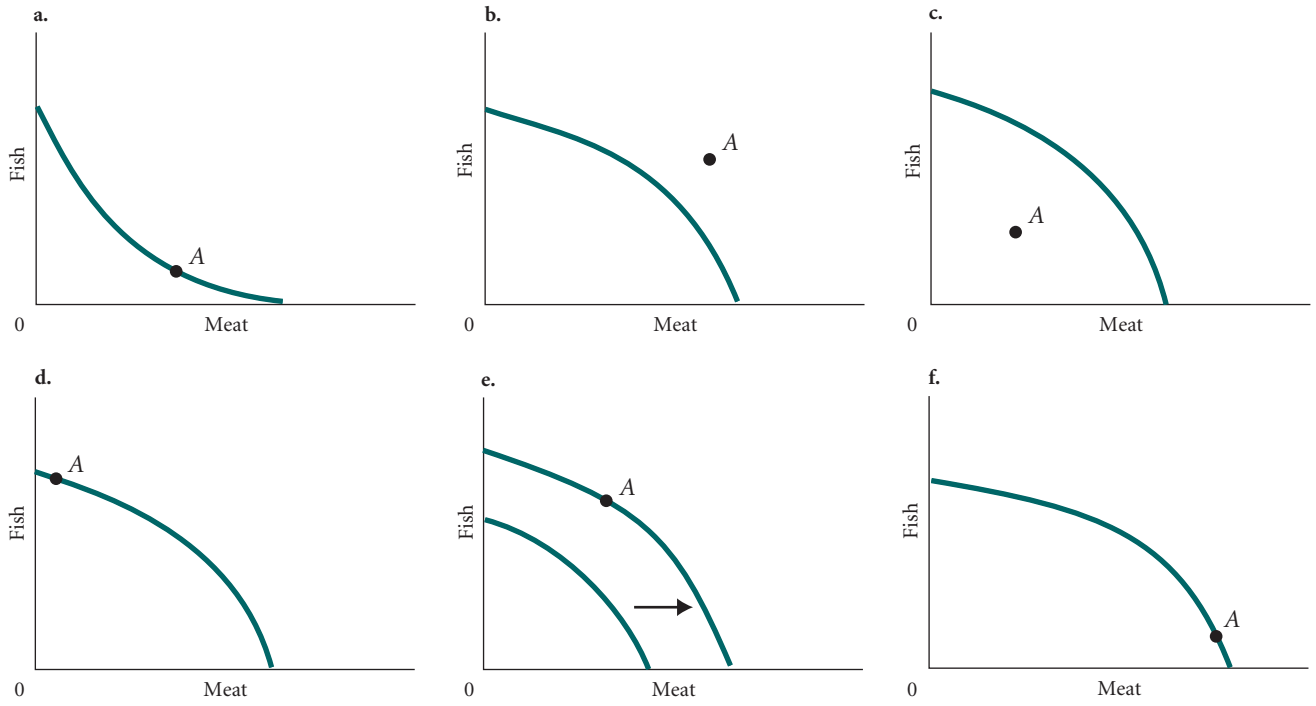
*8. Match each diagram in Figure 1 with its description here. Assume that the economy is producing or attempting to produce at point *A* and that most members of society like meat and not fish. Some descriptions apply to more than one diagram, and some diagrams have more than one description.
   a. Inefficient production of meat and fish
   b. Productive efficiency
   c. An inefficient mix of output
   d. Technological advances in the production of meat and fish
   e. The law of increasing opportunity cost
   f. An impossible combination of meat and fish

9. A nation with fixed quantities of resources is able to produce any of the following combinations of bread and ovens:

LOAVES OF BREAD (MILLIONS)	OVENS (THOUSANDS)
75	0
60	12
45	22
30	30
15	36
0	40

These figures assume that a certain number of previously produced ovens are available in the current period for baking bread.
   a. Using the data in the table, graph the ppf (with ovens on the vertical axis).
   b. Does the principle of "increasing opportunity cost" hold in this nation? Explain briefly. (*Hint:* What happens to the opportunity cost of bread—measured in number of ovens—as bread production increases?)
   c. If this country chooses to produce both ovens and bread, what will happen to the ppf over time? Why?

*Note: Problems marked with an asterisk are more challenging.



▲ FIGURE 1

REVIEW TERMS AND CONCEPTS

aggregate behavior, *p. 97*
aggregate output, *p. 98*
business cycle, *p. 98*
circular flow, *p. 101*
contraction, recession, *or* slump, *p. 98*
corporate bonds, *p. 103*
deflation, *p. 100*
depression, *p. 98*
dividends, *p. 103*
expansion *or* boom, *p. 98*
fine-tuning, *p. 104*
fiscal policy, *p. 103*
Great Depression, *p. 103*
hyperinflation, *p. 100*
inflation, *p. 100*
macroeconomics, *p. 97*
microeconomics, *p. 97*
monetary policy, *p. 103*
recession, *p. 98*
shares of stock, *p. 103*
stagflation, *p. 104*
sticky prices, *p. 97*
transfer payments, *p. 101*
Treasury bonds, notes, *and* bills, *p. 103*
unemployment rate, *p. 99*

PROBLEMS

All problems are available on www.myeconlab.com

1. Define inflation. Assume that you live in a simple economy in which only three goods are produced and traded: fish, fruit, and meat. Suppose that on January 1, 2010, fish sold for $2.50 per pound, meat was $3.00 per pound, and fruit was $1.50 per pound. At the end of the year, you discover that the catch was low and that fish prices had increased to $5.00 per pound, but fruit prices stayed at $1.50 and meat prices had actually fallen to $2.00. Can you say what happened to the overall "price level"? How might you construct a measure of the "change in the price level"? What additional information might you need to construct your measure?
2. Define *unemployment*. Should everyone who does not hold a job be considered "unemployed"? To help with your answer, draw a supply and demand diagram depicting the labor market. What is measured along the demand curve? What factors determine the quantity of labor demanded during a given period? What is measured along the labor supply curve? What factors determine the quantity of labor supplied by households during a given period? What is the opportunity cost of holding a job?
3. **[Related to the *Economics in Practice* on *p. 105*]** The *Economics in Practice* describes prosperity and recession as they are depicted in literature. In mid-2009, there was a debate about whether the U.S. economy had entered an economic expansion. Look at the data on real GDP growth and unemployment and describe the pattern since 2007. You can find raw data on employment and unemployment at www.bls.gov, and you can find raw data on real GDP growth at www.bea.gov. (In both cases, use the data described in "Current Releases.") Summarize what happened in mid-2009. Did the United States enter an economic expansion? Explain.
4. A recession occurred in the U.S. economy during the first three quarters of 2001. National output of goods and services fell during this period. But during the fourth quarter of 2001, output began to increase and it increased at a slow rate through the first quarter of 2003. At the same time, between March 2001 and April 2003, employment declined almost continuously with a loss of over 2 million jobs. How is it possible that output rises while at the same time employment is falling?
5. Describe the economy of your state. What is the most recently reported unemployment rate? How has the number of payroll jobs changed over the last 3 months and over the last year? How does your state's performance compare to the U.S. economy's performance over the last year? What explanations have been offered in the press? How accurate are they?
6. Explain briefly how macroeconomics is different from microeconomics. How can macroeconomists use microeconomic theory to guide them in their work, and why might they want to do so?
7. During 1993 when the economy was growing very slowly, President Clinton recommended a series of spending cuts and tax increases designed to reduce the deficit. These were passed by Congress in the Omnibus Budget Reconciliation Act of 1993. Some who opposed the bill argue that the United States was pursuing a "contractionary fiscal policy" at precisely the wrong time. Explain their logic.
8. Many of the expansionary periods during the twentieth century occurred during wars. Why do you think this is true?
9. In the 1940s, you could buy a soda for 5 cents, eat dinner at a restaurant for less than $1, and purchase a house for $10,000. From this statement, it follows that consumers today are worse off than consumers in the 1940s. Comment.
10. **[Related to *Economics in Practice* on *p. 107*]** John Maynard Keynes was the first to show that government policy could be used to change aggregate output and prevent recessions by stabilizing the economy. Describe the economy of the world at the time Keynes was writing. Describe the economy of the United States today. What measures were being proposed by the Presidential candidates in the election of 2008 to prevent or end a recession in 2008-2009? Where the actions taken appropriate from the standpoint of John Maynard Keynes? Did they have the desired effect?
11. In which of the three market arenas is each of the following goods traded?
    a. U.S. Treasury Bonds
    b. An Amazon Kindle
    c. A Harley-Davidson Softail motorcycle
    d. The business knowledge of Dallas Mavericks' owner Mark Cuban
    e. Shares of Google stock
    f. The crop-harvesting abilities of an orange picker in Florida
12. Assume that the demand for autoworkers declines significantly due to a decrease in demand for new automobiles. Explain what will happen to unemployment using both classical and Keynesian reasoning.
13. Explain why the length and severity of the Great Depression necessitated a fundamental rethinking of the operations of the macroeconomy.

PROBLEMS

All problems are available on www.myeconlab.

1. **[Related to the *Economics in Practice* on *p. 115*]** In a simple economy, suppose that all income is either compensation of employees or profits. Suppose also that there are no indirect taxes. Calculate gross domestic product from the following set of numbers. Show that the expenditure approach and the income approach add up to the same figure.

Consumption	$5,000
Investment	1,000
Depreciation	600
Profits	900
Exports	500
Compensation of employees	5,300
Government purchases	1,000
Direct taxes	800
Saving	1,100
Imports	700

2. How do we know that calculating GDP by the expenditure approach yields the same answer as calculating GDP by the income approach?
3. As the following table indicates, GNP and real GNP were almost the same in 1972, but there was a $300 billion difference by mid-1975. Explain why. Describe what the numbers here suggest about conditions in the economy at the time. How do the conditions compare with conditions today?

DATE	GNP (BILLIONS OF DOLLARS)	REAL GNP (BILLIONS OF DOLLARS)	REAL GNP (% CHANGE)	GNP DEFLATOR (% CHANGE)
72:2	1,172	1,179	7.62	2.93
72:3	1,196	1,193	5.11	3.24
72:4	1,233	1,214	7.41	5.30
73:1	1,284	1,247	10.93	5.71
73:2	1,307	1,248	.49	7.20
73:3	1,338	1,256	2.44	6.92
73:4	1,377	1,266	3.31	8.58
74:1	1,388	1,253	−4.00	7.50
74:2	1,424	1,255	.45	10.32
74:3	1,452	1,247	−2.47	10.78
74:4	1,473	1,230	−5.51	12.03
75:1	1,480	1,204	−8.27	10.86
75:2	1,517	1,219	5.00	5.07

4. What are some of the problems in using fixed weights to compute real GDP and the GDP price index? How does the BEA's approach attempt to solve these problems?
5. Explain what double counting is and discuss why GDP is not equal to total sales.
6. The following table gives some figures from a forecast of real GDP (in 2005 dollars) and population done in mid-2010. According to the forecast, approximately how much real growth will there be between 2010 and 2011? What is per capita real GDP projected to be in 2010 and in 2011? Compute the forecast rate of change in real GDP and per capita real GDP between 2010 and 2011.

Real GDP 2010 (billions)	$13,406
Real GDP 2011 (billions)	$13,792
Population 2010 (millions)	310.2
Population 2011 (millions)	313.2

7. Look at a recent edition of *The Economist*. Go to the section on economic indicators. Go down the list of countries and make a list of the ones with the fastest and slowest GDP growth. Look also at the forecast rates of GDP growth. Go back to the table of contents at the beginning of the journal to see if there are articles about any of these countries. Write a paragraph or two describing the events or the economic conditions in one of the countries. Explain why they are growing or not growing rapidly.
8. During 2002, real GDP in Japan rose about 1.3 percent. During the same period, retail sales in Japan fell 1.8 percent in real terms. What are some possible explanations for retail sales to consumers falling when GDP rises? (*Hint:* Think of the composition of GDP using the expenditure approach.)
9. **[Related to the *Economics in Practice* on *p. 119*]** Which of the following transactions would not be counted in GDP? Explain your answers.
   - **a.** General Motors issues new shares of stock to finance the construction of a plant.
   - **b.** General Motors builds a new plant.
   - **c.** Company A successfully launches a hostile takeover of company B, in which company A purchases all the assets of company B.
   - **d.** Your grandmother wins $10 million in the lottery.
   - **e.** You buy a new copy of this textbook.
   - **f.** You buy a used copy of this textbook.
   - **g.** The government pays out Social Security benefits.
   - **h.** A public utility installs new antipollution equipment in its smokestacks.
   - **i.** Luigi's Pizza buys 30 pounds of mozzarella cheese, holds it in inventory for 1 month, and then uses it to make pizza (which it sells).
   - **j.** You spend the weekend cleaning your apartment.
   - **k.** A drug dealer sells $500 worth of illegal drugs.
10. If you buy a new car, the entire purchase is counted as consumption in the year in which you make the transaction. Explain briefly why this is in one sense an "error" in national income accounting. (*Hint:* How is the purchase of a car different from the purchase of a pizza?) How might you correct this error? How is housing treated in the National Income and Product Accounts? Specifically how does owner occupied housing enter into the accounts? (Hint: Do some Web searching on "imputed rent on owner occupied housing.")
11. Explain why imports are subtracted in the expenditure approach to calculating GDP.

12. GDP calculations do not directly include the economic costs of environmental damage—for example, global warming and acid rain. Do you think these costs should be included in GDP? Why or why not? How could GDP be amended to include environmental damage costs?

13. Beginning in 2005, the housing market, which had been booming for years, turned. Housing construction dropped sharply in 2006. Go to www.bea.gov. Look at the GDP release and at past releases from 2002–2010. In real dollars, how much private residential fixed investment (houses, apartments, condominiums, and cooperatives) took place in each quarter from 2002–2010? What portion of GDP did housing construction represent? After 2006, residential fixed investment was declining sharply, yet GDP was growing until the end of 2007. What categories of aggregate spending kept things moving between 2006 and the end of 2007?

14. By mid-2009, many economists believed that the recession had ended and the U.S. economy had entered an economic expansion. Define *recession* and *expansion*. Go to www.bea.gov and look at the growth of GDP during 2009. In addition, go to www.bls.gov and look at payroll employment and the unemployment rate. Had the recession ended and had the U.S. economy entered an expansion? What do you see in the data? Can you tell by reading newspapers or watching cable news whether the country had entered an expansion? Explain.

15. Jeannine, a successful real estate agent in San Francisco, occasionally includes one of her home listings in the real estate section on eBay. In December 2010, Jeannine listed a home built in 1934 on eBay for $1.2 million, and she accepted an offer from a buyer in Copenhagen, Denmark, for $1.15 million in January 2011. What part, if any, of this transaction will be included as a part of U.S. GDP in 2011?

16. Larson has started a home wine-making business and he buys all his ingredients from his neighborhood farmers' market and a local bottle manufacturer. Last year he purchased $4,000 worth of ingredients and bottles and produced 2,000 bottles of wine. He sold all 2,000 bottles of wine to an upscale restaurant for $10 each. The restaurant sold all the wine to customers for $45 each. For the total wine production, calculate the value added of Larson and of the restaurant.

17. Artica is a nation with a simple economy that produces only six goods: oranges, bicycles, magazines, paper, orange juice, and hats. Assume that half of all the oranges are used to produce orange juice and one-third of all the paper is used to produce magazines.
    a. Use the production and price information in the table to calculate nominal GDP for 2011.
    b. Use the production and price information in the table to calculate real GDP for 2009, 2010, and 2011 using 2009 as the base year. What is the growth rate of real GDP from 2009 to 2010 and from 2010 to 2011?
    c. Use the production and price information in the table to calculate real GDP for 2009, 2010, and 2011 using 2010 as the base year. What is the growth rate of real GDP from 2009 to 2010 and from 2010 to 2011?

	2009		2010		2011	
PRODUCT	QUANTITY	PRICE	QUANTITY	PRICE	QUANTITY	PRICE
Oranges	180	$ 0.90	200	$ 1.00	200	$ 1.25
Bicycles	20	85.00	25	90.00	30	95.00
Magazines	175	3.50	150	3.50	150	3.25
Paper	675	0.60	600	0.50	630	0.50
Orange juice	40	3.50	50	4.00	60	4.50
Hats	70	10.00	80	12.50	100	15.00

18. The following table contains nominal and real GDP data, in billions of dollars, from the U.S. Bureau of Economic Analysis for 2008 and 2009. The data is listed per quarter, and the real GDP data was calculated using 2005 as the base year. Fill in the columns for the GDP deflator and for the percent increase in price level.

QUARTER	NOMINAL GDP	REAL GDP	GDP DEFLATOR	PERCENT INCREASE IN PRICE LEVEL
2008q1	14,373.9	13,366.9		
2008q2	14,497.8	13,415.3		
2008q3	14,546.7	13,324.6		
2008q4	14,347.3	13,141.9		
2009q1	14,178.0	12,925.4		
2009q2	14,151.2	12,901.5		
2009q3	14,242.1	12,973.0		
2009q4	14,453.8	13,149.5		

19. Evaluate the following statement: Even if the prices of a large number of goods and services in the economy increase dramatically, the real GDP for the economy can still fall.

SUMMARY

UNEMPLOYMENT *p. 129*

1. The *unemployment rate* is the ratio of the number of *unemployed* people to the number of people in the *labor force*. To be considered unemployed and in the labor force, a person must be looking for work.
2. Big differences in rates of unemployment exist across demographic groups, regions, and industries. African Americans, for example, experience much higher unemployment rates than whites.
3. A person who decides to stop looking for work is considered to have dropped out of the labor force and is no longer classified as unemployed. People who stop looking because they are discouraged about finding a job are sometimes called *discouraged workers*.
4. Some unemployment is inevitable. Because new workers are continually entering the labor force, because industries and firms are continuously expanding and contracting, and because people switch jobs, there is a constant process of job search as workers and firms try to match the best people to the available jobs. This unemployment is both natural and beneficial for the economy.
5. The unemployment that occurs because of short-run job/skill-matching problems is called *frictional unemployment*. The unemployment that occurs because of longer-run structural changes in the economy is called *structural unemployment*. The *natural rate of unemployment* is the sum of the frictional rate and the structural rate. The increase in unemployment that occurs during recessions and depressions is called *cyclical unemployment*.

INFLATION *p. 135*

6. The *consumer price index* (*CPI*) is a fixed-weight price index. It represents the "market basket" purchased by the typical urban consumer.
7. Whether people gain or lose during a period of inflation depends on whether their income rises faster or slower than the prices of the things they buy. The elderly are more insulated from inflation than most people think because Social Security benefits and many pensions are indexed to inflation.
8. Inflation is likely to have a larger effect on the distribution of income when it is unanticipated than when it is anticipated.

LONG-RUN GROWTH *p. 140*

9. Output growth depends on: (1) the growth rate of the capital stock, (2) the growth rate of output per unit of the capital stock, (3) the growth rate of labor, and (4) the growth rate of output per unit of labor.
10. Output per worker hour (labor productivity) rose faster in the 1950s and 1960s than it rose from the 1970s to 2007. An interesting question is whether labor productivity will rise faster in the future because of the Internet.

REVIW TERMS AND CONCEPTS

consumer price index (CPI), *p. 136*
cyclical unemployment, *p. 135*
discouraged-worker effect, *p. 132*
employed, *p. 130*
frictional unemployment, *p. 134*
labor force, *p. 130*
labor force participation rate, *p. 130*
natural rate of unemployment, *p. 135*
not in the labor force, *p. 130*
output growth, *p. 140*
per-capita output growth, *p. 140*
producer price indexes (PPIs), *p. 137*
productivity growth, *p. 140*
real interest rate, *p. 139*
structural unemployment, *p. 135*
unemployed, *p. 130*
unemployment rate, *p. 130*

1. labor force = employed + unemployed
2. population = labor force + not in labor force
3. $$\text{unemployment rate} = \frac{\text{unemployed}}{\text{employed} + \text{unemployed}}$$
4. $$\text{labor force participation rate} = \frac{\text{labor force}}{\text{population}}$$

PROBLEMS

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1. In late 2010 economists were debating whether the U.S. economy was in a recession. GDP seemed to be rising, yet the unemployment rate was stuck at close to 10 percent. In thinking about the economic distress experienced during a recession which is the most important: high unemployment or falling GDP? Defend your answer.
2. When an inefficient firm or a firm producing a product that people no longer want goes out of business, people are unemployed, but that is part of the normal process of economic growth and development. The unemployment is part of the

natural rate and need not concern policy makers. Discuss that statement and its relevance to the economy today.

3. What is the unemployment rate in your state today? What was it in 1970, 1975, 1982, and 2008? How has your state done relative to the national average? Do you know or can you determine why?
4. Suppose all wages, salaries, welfare benefits, and other sources of income were indexed to inflation. Would inflation still be considered a problem? Why or why not?
5. Go to www.bls.gov and click on the links for state and area employment and unemployment. Look at your home state and describe what changes have taken place in the workforce. Has the labor force participation rate gone up or down? Provide an explanation for the rate change. Are your state's experiences the same as the rest of the country? Provide an explanation of why your state's experiences are the same as or different from the rest of the country.
6. What do the CPI and the PPI measure? Why do we need both of these price indexes? (Think about what purpose you would use each one for.)
7. The consumer price index (CPI) is a fixed-weight index. It compares the price of a fixed bundle of goods in one year with the price of the same bundle of goods in some base year. Calculate the price of a bundle containing 100 units of good *X*, 150 units of good *Y*, and 25 units of good *Z* in 2008, 2009, and 2010. Convert the results into an index by dividing each bundle price figure by the bundle price in 2008. Calculate the percentage change in your index between 2008 and 2009 and again between 2009 and 2010. Was there inflation between 2009 and 2010?

GOOD	QUANTITY CONSUMED	2008 PRICES	2009 PRICES	2010 PRICES
X	100	$1.00	$1.50	$1.75
Y	150	1.50	2.00	2.00
Z	25	3.00	3.25	3.00

8. Consider the following statements:
   a. More people are employed in Tappania now than at any time in the past 50 years.
   b. The unemployment rate in Tappania is higher now than it has been in 50 years.

   Can both of those statements be true at the same time? Explain.
9. Policy makers talk about the "capacity" of the economy to grow. What specifically is meant by the "capacity" of the economy? How might capacity be measured? In what ways is capacity limited by labor constraints and by capital constraints? What are the consequences if demand in the economy exceeds capacity? What signs would you look for?
10. What was the rate of growth in real GDP during the most recent quarter? You can find the answer in publications such as the *Survey of Current Business, The Economist*, and *Business Week*. Has growth been increasing or decreasing? What policies might you suggest for increasing the economy's potential long-run rate of growth?
11. Suppose the stock of capital and the workforce are both increasing at 3 percent annually in the country of Wholand. At the same time, real output is growing at 6 percent. How is that possible in the short run and in the long run?
12. Suppose the number of employed people in an economy is 121,166,640. The unemployment rate in this economy is 10.4 percent, or .104, and the labor force participation rate is 72.5 percent, or .725.
    a. What is the size of the labor force?
    b. How many people are unemployed?
    c. What is the size of the working-age population?
13. On average, nations in Europe pay higher unemployment benefits for longer periods of time than does the United States. How do you suppose this would impact the unemployment rates in these nations? Explain which type of unemployment you think is most directly affected by the size and duration of unemployment benefits.
14. Consider the following four situations. In which situation would a borrower be best off and in which situation would a lender be best off?
    a. The nominal interest rate is 14 percent and the inflation rate is 17 percent.
    b. The nominal interest rate is 7 percent and the inflation rate is 3 percent.
    c. The nominal interest rate is 4 percent and the inflation rate is –2 percent.
    d. The real interest rate is 6 percent and the inflation rate is 2 percent.
15. In each of the following cases, classify the person as cyclically unemployed, structurally unemployed, frictionally unemployed, or not in the labor force. Explain your answers.
    a. Maya just graduated from a top medical school and is currently deciding which hospital emergency room job she will accept.
    b. Hector lost his job as an assembly line worker at Chrysler due to the recession.
    c. Alejandro, an advertising executive in Seattle, quit his job one month ago to look for a more prestigious advertising job in New York City. He is still looking for a job.
    d. Yvonne got laid off from her job as a financial analyst 3 months ago and has not looked for a new job since then.
    e. Taylor lost his job as a welder due to the introduction of robotic welding machines.
    f. Ruby quit her job as a hotel concierge to become a full-time student at a culinary school.
16. The consumer price index is 125 in year 1 and 160 in year 2. All inflation is anticipated. If the Commerce Bank of Beverly Hills charges an interest rate of 35 percent in year 2, what is the bank's real interest rate?
17. **[Related to the *Economics in Practice* on *p. 138*]** Evaluate the following statement: Because the CPI is a fixed-weight price index, it has a tendency to overestimate the rate of inflation. Therefore, if the CPI decreases, it must also have a tendency to underestimate the rate of deflation.