ANSWER SHEET
Macroeconomics

MULTIPLE-CHOICE QUESTIONS

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Macroeconomics Practice Test

Two hours are allotted for this exam: 1 hour and 10 minutes for Section I, which consists of multiple-choice questions; and 50 minutes for Section II, which consists of three mandatory essay questions.

SECTION I—MULTIPLE-CHOICE QUESTIONS

Time—1 hour and 10 minutes
Number of Questions—60
Percent of Total Grade—66⅔

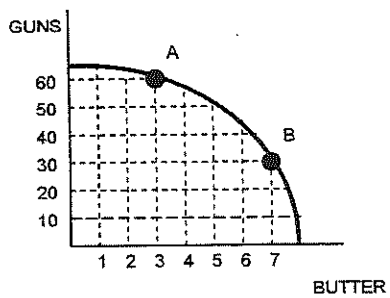
DIRECTIONS

Each of the questions or incomplete statements beginning on page 318 is followed by five suggested answers or completions. Select the one that is best in each case and then fill in the corresponding circle on the answer sheet.

Don't forget about the online test for extra practice for AP Macroeconomics. Visit *barronsbooks.com/ap/ap-economics/*.

1. In the long run an increase in the money supply results in
   (A) a proportional increase in the quantity of output.
   (B) stagflation.
   (C) an increase in the real rate of interest.
   (D) an economic expansion.
   (E) a proportional increase in the price level.

2. You buy 100 shares in XYZ Corporation on the Internet and your broker charges you $29.95.
   (A) This will increase the investment component of GDP and therefore overall GDP.
   (B) This has no effect on GDP.
   (C) This will increase GDP by $29.95.
   (D) This will increase GDP by the cost of the shares minus $29.95.
   (E) This will increase GDP by the cost of the shares plus $29.95.



3. Given the graph above, the opportunity cost of four additional units of butter as the economy moves from A to B is
   (A) seven units of butter.
   (B) 30 units of guns.
   (C) 60 units of guns.
   (D) unobtainable.
   (E) indeterminant.

4. In the short run, contractionary monetary policy causes aggregate demand to ______, output to ______, and the price level to ______.

	Aggregate Demand	Output	Price Level
(A)	Increase	Increase	Increase
(B)	Increase	Increase	Decrease
(C)	Decrease	Decrease	Increase
(D)	Decrease	Decrease	Decrease
(E)	Decrease	Increase	Increase

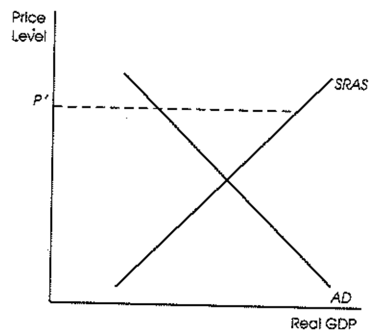
5. Assume the reserve requirement is five percent. If the Fed sells $10 million worth of government securities in an open market operation, then the money supply can potentially
   (A) increase by $200 million.
   (B) decrease by $200 million.
   (C) increase by $50 million.
   (D) decrease by $50 million.
   (E) increase by $150 million.

6. Given the table below, which statement is true?

   Labor hours needed to produce a unit of:

Country	Wine	Cheese
France	40	80
Belgium	15	60

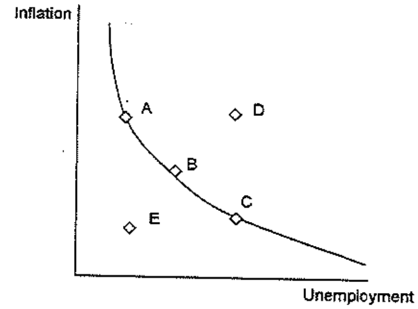
   (A) France has the absolute advantage in both products.
   (B) France should specialize in and export wine while Belgium should specialize in and export cheese.
   (C) France has the comparative advantage in cheese.
   (D) France has the absolute advantage in cheese.
   (E) Belgium has the comparative advantage in both products.



7. At P′ in the diagram above,
   (A) inventories will be unintentionally drawn down, and the price level will fall.
   (B) inventories will be unintentionally increased, and the price level will fall.
   (C) inventories will be unintentionally drawn down, and the price level will rise.
   (D) inventories will be unintentionally increased, and the price level will rise.
   (E) inventories will be unintentionally drawn down, but prices will not be affected.

8. Suppose taxes are cut in an economy that is in equilibrium at full employment. In the long run the tax cut will
   (A) raise real output and raise the price level.
   (B) lower real output and raise the price level.
   (C) raise real output and lower the price level.
   (D) lower real output and lower the price level.
   (E) raise the price level.

9. As a result of automatic stabilizers, during economic expansions government expenditures
   (A) and taxes fall.
   (B) and taxes rise.
   (C) rise and taxes fall.
   (D) fall and taxes rise.
   (E) remain stable.



10. Consider the diagram above. In the short run, stagflation will move the economy from point B to
    (A) point A.
    (B) point A and then back to point B.
    (C) point C.
    (D) point D.
    (E) point E.

11. Which of the following shifts the production possibilities frontier outward?
    (A) A decrease in the price level
    (B) An increase in labor productivity
    (C) An increase in the money supply
    (D) A decrease in the unemployment rate
    (E) An increase in the minimum wage

12. In the circular-flow diagram households send __________ to firms in return for __________.
    (A) resources; spending
    (B) spending; resources
    (C) resources; wages and profits
    (D) goods and services; wages
    (E) goods and services; spending

13. An Italian company opens a shoe factory in the U.S. The production from this shoe factory is included in
    (A) the Italian GDP.
    (B) the U.S. GDP.
    (C) both the Italian and U.S. GDP.
    (D) both the Italian and U.S. GDP split 50/50.
    (E) neither the Italian nor U.S. GDP.

14. Which of the following is NOT included in GDP?
    (A) Federal government purchases of goods and services
    (B) Imports
    (C) State and local government purchases of goods and services
    (D) Exports
    (E) The change in business inventories

15. An increase in the price level reduces total spending in the economy because
    I. consumers' incomes cannot go as far now that prices have risen.
    II. foreigners buy less.
    III. higher prices result in higher interest rates, which reduces spending.

    (A) Only I is correct.
    (B) I and II are correct.
    (C) I and III are correct.
    (D) II and III are correct.
    (E) I, II, and III are correct.

16. Suppose real GDP increases. We can conclude without a doubt that
    (A) prices are higher.
    (B) employment is higher.
    (C) production is higher.
    (D) prices and output are greater.
    (E) unemployment is lower.

17. An appropriate fiscal policy to remedy a recession is to
    (A) increase government spending and taxes.
    (B) reduce government spending and taxes.
    (C) increase government spending and reduce taxes.
    (D) decrease government spending and increase taxes.
    (E) increase the money supply.

18. Which of the following would lead to a decrease in the money supply?
    (A) The Fed lowers the discount rate.
    (B) The Fed sells government securities in the secondary market.
    (C) The federal government spends less money.
    (D) The Fed lowers reserve requirements.
    (E) Taxes are reduced.

19. If interest rates rise relatively more in country A than in country B, then the value of country A's currency will
    (A) appreciate.
    (B) depreciate.
    (C) remain unchanged.
    (D) change indeterminately.
    (E) depreciate by the difference in interest rates.

20. If the marginal propensity to consume equals 0.75 and government spending increases by $100 million, then overall real GDP can be expected to
    (A) decrease by $133.33 million.
    (B) increase by $133.33 million.
    (C) decrease by $400 million.
    (D) increase by $400 million.
    (E) increase by $75 million.

21. Inflation
    (A) hurts creditors who do not anticipate it.
    (B) hurts creditors who anticipate it.
    (C) hurts debtors.
    (D) benefits debtors who do not anticipate it.
    (E) both A and D are correct.

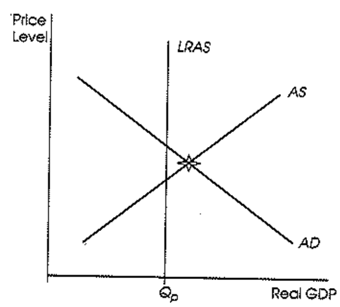
22. Which of the following persons is considered to be unemployed?

I. Mary, who has quit her job to look for another

II. John, who fulfilled his dream by retiring from work at age 45

III. Diane, who works part-time but would like to work full-time

(A) I only
(B) II only
(C) III only
(D) I and III
(E) II and III



23. The economy depicted in the figure above is experiencing ________. In the absence of monetary or fiscal policy, the economy will eventually move to a point where the price level is ________.

(A) a recession; higher
(B) a recession; lower
(C) extremely high production; higher
(D) extremely high production; lower
(E) extremely high production; unchanged

24. The population of country X is exactly the same as country Y, but country X produces twice as much output as country Y. We can conclude that

(A) the people of country X are smarter than the people of country Y.
(B) the people of country X enjoy a standard of living twice as much as country Y.
(C) the people of country Y enjoy a standard of living twice as much as country X.
(D) the people of country Y work twice as hard as the people of country X.
(E) country X is bigger than country Y.

25. If the government of country Z increases spending by $12 million dollars and raises tax collections by the same amount, then what will be the overall impact of these moves on real GDP in country Z?

(A) Real GDP will increase by $6 million.
(B) Real GDP will decrease by $6 million.
(C) Real GDP will remain unchanged.
(D) Real GDP will increase by $12 million.
(E) Real GDP will decrease by $12 million.

26. Suppose you observe an economy where prices are falling and real GDP is rising. This may have been caused by

(A) stagflation.
(B) an advance in technology.
(C) an increase in government spending.
(D) a decrease in government spending.
(E) a decrease in the money supply.

27. Which of the following would reduce economic growth?
    (A) A decline in investment
    (B) An increase in immigration from abroad
    (C) A technological advance
    (D) An increase in the labor force
    (E) An increase in the savings rate

28. Currency held by the public
    (A) is not part of the money supply, but currency held by banks is.
    (B) is part of M1 but not M2.
    (C) is part of the money supply, but currency held by banks is not.
    (D) and by banks is part of the money supply.
    (E) or banks is not part of the money supply since it is not included in M1.

29. The equation of exchange demonstrates the neutrality of money only if the
    (A) velocity of money supply and the quantity of output are constant.
    (B) money supply and its velocity are equal.
    (C) velocity of money supply equals the speed of transactions.
    (D) money supply and its velocity are inversely related.
    (E) money supply and the exchange rate are inversely related.

30. Economy X is an open economy with flexible exchange rates. Economy Y is closed. *Ceteris paribus* expansionary monetary policy is
    (A) more effective in X because the policy will increase net exports.
    (B) more effective in X because the policy will decrease net exports.
    (C) equally effective in X and Y.
    (D) less effective in X because the policy will increase net exports.
    (E) less effective in X because the policy will decrease net exports.

31. An increase in the price of forklifts imported into the United States from Belgium will
    (A) increase the consumer price index and the GDP deflator.
    (B) increase the consumer price index but not the GDP deflator.
    (C) increase the GDP deflator but not the consumer price index.
    (D) increase the GDP deflator and the producer price index.
    (E) have no effect on the consumer price index or the GDP deflator.

32. An increase in the demand for money in the economy could result from
    (A) a recession.
    (B) a higher price level.
    (C) higher interest rates.
    (D) expected future inflation.
    (E) a decrease in the supply of money.

33. The international value of the dollar will appreciate if
    (A) American income falls relative to the rest of the world.
    (B) American interest rates fall relative to interest rates in other countries.
    (C) American prices rise.
    (D) foreigners boycott American products.
    (E) speculators expect the value of the dollar to depreciate.

34. The potential amount of money created after the Fed increases bank reserves will be diminished if
    (A) the public prefers to hold less cash.
    (B) the velocity of money falls.
    (C) depository institutions decide to hold more excess reserves.
    (D) the marginal propensity to consume falls.
    (E) the international value of the dollar falls.

35. An increase in the federal deficit may affect the demand for loan funds and therefore the real interest rate and investment spending. Which of the following gives the correct direction of these effects?

	Demand for Loanable Funds	Real Interest Rate	Investment Spending
(A)	Increase	Increase	Increase
(B)	Decrease	Decrease	Decrease
(C)	Decrease	Decrease	Increase
(D)	Increase	Increase	Decrease
(E)	Increase	Decrease	Increase

36. If the inflation rate is expected to increase in the immediate future, then

(A) consumers will begin saving more now.
(B) the velocity of money will fall.
(C) this will put upward pressure on the nominal interest rate.
(D) this will put downward pressure on the real interest rate.
(E) the international value of the dollar will rise.

37. If the economy is in disequilibrium where the price level is such that the aggregate quantity of products demanded exceeds the aggregate quantity of products supplied, then

(A) prices will be driven upward to restore equilibrium.
(B) supply will increase.
(C) demand will decrease.
(D) supply will decrease.
(E) a recession is inevitable.

38. If 200 computers with a retail value of $100,000 are domestically produced in 2005, but not sold until 2006, then GDP in 2005 is

(A) $100,000 higher because of the computers.
(B) 200 higher because of the computers.
(C) unaffected until 2006 when the computers are sold and the figure for GDP in 2005 is revised.
(D) higher by the wholesale value of the computers.
(E) unaffected and the computers are counted in GDP for 2006.

39. Appropriate fiscal and monetary polices during the contractionary phase of the business cycle include

(A) budget surpluses and higher discount rates.
(B) tax reductions and open market purchases.
(C) budget surpluses and lower discount rates.
(D) increases in government spending and higher discount rates.
(E) decreases in government spending and lower discount rates.

40. A change in government spending will have a greater short-run impact on real output when

(A) the marginal propensity to consume is lower.
(B) the velocity of money is lower.
(C) the velocity of money is higher.
(D) the marginal propensity to consume is larger.
(E) interest rates rise.

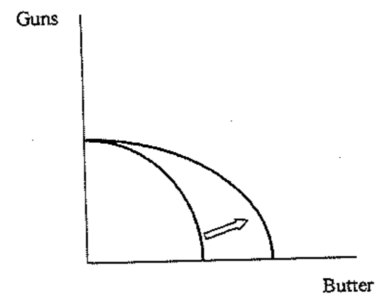
41. Suppose a country produces only two goods, pizza and soda. Given the information in the table below, nominal GDP, real GDP, and the GDP deflator in 2005 are (assume 2004 is the base year):

Year	Pizza Production	Soda Production	Price of a Pizza	Price of a Soda
2004	8	20	$10	$1
2005	10	30	$17	$3

	Nominal GDP	Real GDP	GDP Deflator
(A)	800	400	200
(B)	130	260	50
(C)	260	130	200
(D)	260	196	133
(E)	800	400	400

42. If the economy experienced a decrease in real GDP and price level, this could best be explained by

(A) a decline in labor productivity.
(B) a technological advance.
(C) a decline in investment.
(D) an uptick in net exports.
(E) a reduction in interest rates.



43. The shift depicted in the diagram above could have been caused by

(A) better production methods in the gun industry.
(B) an increase in the number of cows in the economy.
(C) an increase in the number of workers in the economy.
(D) a technological setback in the gun industry.
(E) a reduction in farmland available due to pollution.

44. Suppose the real interest rate in a country rises. What can be expected to happen to the demand for this nation's currency and, therefore, the value of its currency and net exports?

	Demand for Currency	Value of Currency	Net Exports
(A)	Decrease	Appreciate	Decrease
(B)	Decrease	Depreciate	Decrease
(C)	Decrease	Depreciate	Increase
(D)	Increase	Appreciate	Increase
(E)	Increase	Appreciate	Decrease

45. According to Keynesian analysis, the Great Depression was caused by
   (A) a lack of spending.
   (B) a sharp rise in the marginal propensity to consume.
   (C) too much investment.
   (D) too much foreign influence on the economy.
   (E) a sharp decline in labor productivity.

46. In the Classical model an economy in a recession can return to full employment in the long run through
   (A) falling wages and prices.
   (B) rising wages and prices.
   (C) expansionary monetary policy.
   (D) increased government spending.
   (E) decreased government spending.

47. If the cost of the basket of goods and services the Bureau of Labor Statistics uses to calculate the consumer price index rises from $200 in the base period to $400 in the current period, then the consumer price index
   (A) equals 0.5 in the current period.
   (B) has risen 5 percent from the base to the current period.
   (C) equals 50 in the current period.
   (D) equals 200 in the current period.
   (E) has risen 200 percent.

48. Contractionary monetary policy implies which of the following about the discount rate, the nominal interest rate, and aggregate demand?

	Discount Rate	Nominal Interest Rate	Aggregate Demand
(A)	Decrease	Increase	Decrease
(B)	Increase	Increase	Decrease
(C)	Decrease	Decrease	Decrease
(D)	Increase	Increase	Increase
(E)	Increase	Decrease	Decrease

49. A decline in the demand for money could be the result of
   (A) higher prices.
   (B) more money placed in checking accounts.
   (C) higher returns on bonds.
   (D) fewer credit cards.
   (E) open market purchases by the Fed.

50. An important assumption underlying Monetarism is that
   (A) the marginal propensity to consume is constant.
   (B) the money supply is continuous.
   (C) the exchange rate is fixed.
   (D) the velocity of money is stable.
   (E) the exchange rate is flexible.

51. Which of the following policies is most likely to bring about economic growth in the long run?
   (A) Imposing tariffs to protect domestic industries from foreign competition
   (B) Placing taxes on savings
   (C) Increasing government spending
   (D) Increasing the money supply
   (E) Promoting improvements in the education of the population

52. An increase in the price level and a decrease in real GDP in the short run could be the result of
   (A) a prolonged period of very bad weather.
   (B) a decrease in the money supply.
   (C) a decrease in consumer confidence.
   (D) an increase in consumer confidence.
   (E) an increase in the money supply.

53. In 2010, the United States had a trade deficit of $600 billion; therefore,
    (A) net exports were positive.
    (B) Americans consumed more than they produced.
    (C) America's government spent more than it took in.
    (D) $600 billion worth of capital flowed out of America.
    (E) the government had to make payments to foreign countries of $600 billion.

54. GDP measures a country's level of
    I. production.
    II. stability.
    III. income.
    (A) I only
    (B) II only
    (C) III only
    (D) I and II
    (E) I and III

55. Which of the following lists contains only Fed actions that will increase the money supply?
    (A) Raise reserve requirements; lower the discount rate; sell bonds
    (B) Raise reserve requirements; lower the discount rate; buy bonds
    (C) Raise reserve requirements; raise the discount rate; sell bonds
    (D) Lower reserve requirements; lower the discount rate; sell bonds
    (E) Lower reserve requirements; lower the discount rate; buy bonds

56. Which of the following lists contains only policies that will close an inflationary gap?
    (A) Increase the money supply; run a federal budget deficit
    (B) Decrease the money supply; run a federal budget deficit
    (C) Decrease the money supply; increase taxes; reduce government spending
    (D) Increase the money supply; increase taxes; reduce government spending
    (E) Decrease the money supply; decrease taxes; reduce government spending

57. Suppose the exchange rates are 0.5 British pound per dollar; 10 Mexican pesos per dollar; and 100 Chinese yuan per dollar. Further suppose that a Big Mac costs 3 dollars in America; 2 pounds in England; 50 pesos in Mexico; and 200 yuan in China. In which country is a Big Mac most expensive?
    (A) America
    (B) England
    (C) Mexico
    (D) China
    (E) England and China are equally most expensive

58. Potential GDP will fall, *ceteris paribus*, if
    (A) the unemployment rate rises.
    (B) the retirement age is lowered.
    (C) tariffs protecting domestic jobs are eliminated.
    (D) more immigration is allowed.
    (E) the minimum wage is raised.

59. If nominal GDP = $1,500 and real GDP = $1,000, then the GDP deflator equals
    (A) $500.
    (B) 150.
    (C) 66.67.
    (D) –$500.
    (E) 200.

60. Imagine someone who is not looking for work because he is embarrassed in the interview process when his inability to read is revealed. However, this person would take just about any job that was offered. According to the Bureau of Labor Statistics this person is
    (A) in the labor force and unemployed.
    (B) in the labor force and employed.
    (C) not in the labor force.
    (D) not in the labor force, but counted as unemployed.
    (E) not in the labor force, but counted as employed.

SECTION II—FREE-RESPONSE QUESTIONS

Planning Time—10 minutes
Writing Time—50 minutes
Percent of Total Grade—33⅓

DIRECTIONS

You have 50 minutes to answer all three of the following questions. It is suggested that you spend approximately half your time on the first question and divide the remaining time equally between the next two questions. In answering the questions, you should emphasize the line of reasoning that generated your results; it is not enough to list the results of your analysis. Include correctly labeled diagrams, if useful or required, in explaining your answers. A correctly labeled diagram must have all axes and curves clearly labeled and must show directional changes.

Students should consider doing a "sketch" (main points, quick graph, etc.) of the answer before actually answering the Free-Response questions. When you use graphs on the Free-Response questions, label the axes and make direct references to any symbols, e.g., MR, P, output, on the graphs when you respond to questions.

NOTE

Recent Advanced Placement exams require *three* Free-Response questions. Some of the questions may be based on material covered in the common chapters, such as the production possibilities frontier or curve when applied to international trade. For these questions, please refer to those chapters.

1. Country X is experiencing a falling price level and a low level of real GDP.
   (a) Draw a correctly labeled graph of aggregate demand, short-run aggregate supply, and long-run aggregate supply that depicts the recession in Country X.
   (b) Assume income taxes are reduced in Country X.
      (i) Explain how a cut in income taxes would affect the equilibrium price level and equilibrium real GDP in Country X.
      (ii) Show the effects of the tax cut on your graph from part (a). Be clear about which curve(s) is/are shifting which way.
   (c) Draw a correctly labeled graph of the money supply and money demand showing the equilibrium nominal interest rate.
      (i) Explain how the changes in the equilibrium price level and equilibrium real GDP from part (b) above will affect the equilibrium nominal interest rate.
      (ii) Show the effects of the changes in the equilibrium price level and equilibrium real GDP on your graph of the money supply and money demand.
      (iii) Explain how the change in the equilibrium nominal interest rate will impact the macroeconomy.

2. Suppose that interest rates in the United States fall relative to the rest of the world. Explain how this will affect
   (a) the value of the dollar.
   (b) net exports.
   (c) Now suppose the monetary authorities in the United States did not want the value of the dollar. Explain how the value of the dollar could be held stable in this situation.

3. Describe how an open market purchase of $7 million by the Federal Reserve Bank will affect the money supply.
   (a) Assuming a required reserve ratio of five percent, what is the maximum amount by which the money supply can change due to the open market operation?
   (b) How will your answer to (a) above change if banks decide to hold reserves over and above the required amount?
   (c) Suppose a large corporation makes the open market purchase of $7 million. Explain how the money supply will be affected in this case.

ANSWER KEY
Macroeconomics

MULTIPLE-CHOICE QUESTIONS

1. **E**	16. **C**	31. **E**	46. **A**
2. **C**	17. **C**	32. **B**	47. **D**
3. **B**	18. **B**	33. **A**	48. **B**
4. **D**	19. **A**	34. **C**	49. **C**
5. **B**	20. **D**	35. **D**	50. **D**
6. **C**	21. **E**	36. **C**	51. **E**
7. **B**	22. **A**	37. **A**	52. **A**
8. **E**	23. **C**	38. **A**	53. **B**
9. **D**	24. **B**	39. **B**	54. **E**
10. **D**	25. **D**	40. **D**	55. **E**
11. **B**	26. **B**	41. **C**	56. **C**
12. **C**	27. **A**	42. **C**	57. **C**
13. **B**	28. **C**	43. **B**	58. **B**
14. **B**	29. **A**	44. **E**	59. **B**
15. **D**	30. **E**	45. **A**	60. **C**

ANSWERS EXPLAINED

MACROECONOMICS

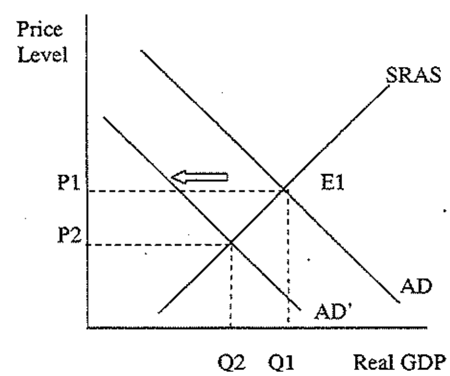
Multiple-Choice Questions

1. **(E)** (Chapter 17) The Classical notion of monetary neutrality is based on the idea that the money supply and the price level are proportionally related.

2. **(C)** (Chapter 12) Financial transactions are not counted in GDP, but brokerage services are counted.

3. **(B)** (Chapter 2) At point A the economy is producing 60 guns and 3 units of butter. At Point B production is 30 guns and 7 units of butter. The 4 additional units of butter come at a cost of 30 guns.

4. **(D)** (Chapter 17) Contractionary monetary policy is a decrease in the money supply. This shifts aggregate demand to the left. A leftward shift in aggregate demand results in a lower level of output and a lower price level. This is seen in the aggregate demand–aggregate supply model:

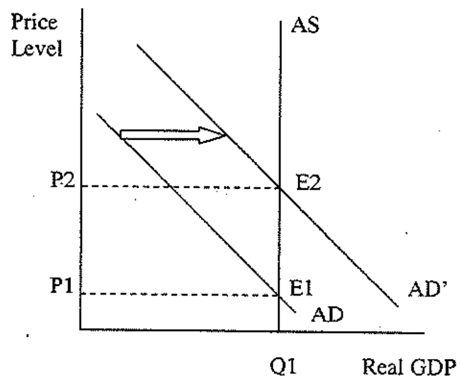


5. **(B)** (Chapter 16) If the reserve requirement is five percent, then the money multiplier is 20 (= 1/0.05). Bank reserves fall by $10 million because of the open market operation. The money supply falls by $200 million (= $10 million × 20).

6. **(C)** (Chapter 2) Since Belgium can produce both wine and cheese with fewer labor hours than France, Belgium has the absolute advantage in both products. The opportunity cost of cheese in Belgium is 60/15 = 4 wine; the opportunity cost of cheese in France is 80/40 = 2 wine. France has the lower opportunity cost of producing cheese and therefore the comparative advantage in cheese production.

7. **(B)** (Chapter 14) Since AS > AD at P′, inventories will unintentionally increase. In order to lower excess inventories, firms will be forced to lower prices, and the price level falls.

8. **(E)** (Chapter 14) The trick to answering this question correctly is to use a vertical aggregate supply curve. You know to do so because the question asks about the long run. The tax cut shifts AD right to AD′. This results in a higher price level (P_2), but the same level of output (Q_1).



9. **(D)** (Chapter 15) During an economic expansion output, income, and employment increase. This results in fewer households qualifying for income maintenance programs such as food stamps and housing subsidies. Government expenditures fall, but tax collections rise because more income means more tax revenue for the government.

10. **(D)** (Chapter 15) Stagflation is inflation and recession (unemployment) at the same time. The only point shown with higher inflation and unemployment than B is point D. Indeed, stagflation causes the Phillips curve to shift right through a point such as D.

11. **(B)** (Chapter 2) Only changes in technology/productivity or changes in resource availability can shift the production possibilities frontier. Many students choose D here, but notice that a decrease in unemployment will move the economy onto the frontier from a point inside the frontier.

12. **(C)** (Chapter 2) Households own the resources (land, labor, capital) in the economy. They sell them to firms in exchange for wages and profits.

13. **(B)** (Chapter 12) It does not matter where the company has its headquarters. GDP counts production within a nation's borders.

14. **(B)** (Chapter 12) Consider the equation GDP = C + I + G + X. X is exports minus imports. So exports are included in GDP, but imports are subtracted out. G is federal, state, and local government purchases; I is business spending on plant and equipment plus the change in business inventories.

15. **(D)** (Chapter 14) When the price level rises, so does total income in the economy. Therefore I is not correct. However, foreign incomes do not rise, so foreigners buy less of our products. II is correct. III is a statement of Fisher's Hypothesis and is also correct.

16. **(C)** (Chapter 12) When real GDP rises it can only be due to more production. Price changes do not affect real GDP. Employment (and therefore unemployment) may or may not change with changes in real GDP.

17. **(C)** (Chapter 15) Increasing government spending and reducing taxes stimulate aggregate demand and fight recessions. Increasing the money supply does this as well, but that is monetary policy.

18. **(B)** (Chapter 16) When the Fed sells securities in the secondary market it gets paid with checks drawn on bank accounts. Bank reserves fall and the money supply falls by a multiple of the decline in bank reserves.

19. **(A)** (Chapter 19) When interest rates rise in country A, people from country B will want to buy bonds there. People from country B will need to obtain the currency of country A in order to do this. The demand for country A's currency rises. This causes it to appreciate.

20. **(D)** (Chapter 14) If the marginal propensity to consume is 0.75, then the multiplier is 4 (= 1/(1 – 0.75)). The increase in government spending gets multiplied by 4 to determine the overall increase in spending and therefore real GDP. 4 × $100 million = $400 million.

21. **(E)** (Chapter 13) Inflation hurts lenders because they are repaid in dollars that are not worth as much. Some lenders, however, anticipate this and demand higher rates of interest when the loan is made. Borrowers, or debtors, do not mind inflation because they get to repay loans with dollars that are worth less.

22. **(A)** (Chapter 13) Mary is frictionally unemployed. Retired persons presumably are not looking for work, so they are not part of the labor force. People who work part-time are counted as employed even if they would like to work full-time.

23. **(C)** (Chapter 14) The economy is experiencing an extremely high production level since it is in short-run equilibrium to the right of potential, or long-run, real GDP. In the absence of government policies to correct the situation, the AS curve will shift to the left. Prices are expected to be higher in the future, and so aggregate supply decreases right now. The aggregate supply curve shifts left until a new equilibrium is reached at potential, or long-run, aggregate supply.

24. **(B)** (Chapter 18) The standard of living depends on real GDP per capita. Country X has twice the output per person as country Y.

25. **(D)** (Chapter 15) This is a balanced-budget move—government spending is increasing and tax collections are increasing by the same amount. It is not necessary to know the MPC. In this situation the net impact on real GDP is a change equivalent to the change in government spending.

26. **(B)** (Chapter 14) A technological advance shifts the aggregate supply curve to the right.

27. **(A)** (Chapter 18) Less investment implies less plant and equipment in the future. That reduces economic growth, whereas choices B through E all enhance growth.

28. **(C)** (Chapter 16) Currency in the vaults of depository institutions is not counted as part of the money supply. However, if you withdraw $100 from your checking account, M1 is unaffected. When the money comes out of the bank's vault and goes into your pocket, that in itself raises the money supply by $100—but your checking account went down by $100 because of the withdrawal. It's a wash.

29. **(A)** (Chapter 16) The velocity of money supply and the quantity of output must be constant in the equation of exchange or else, by algebra, a change in the money supply will not have a proportional effect on output in the equation of exchange.

30. **(E)** (Chapter 19) The more open an economy, the less effective monetary policy will be. Consider an increase in the money supply. This will raise real GDP and prices in

the short run. However, if the economy is open, then the increase in real GDP will boost incomes and therefore importation (which reduces real GDP somewhat), and the increase in prices will reduce exports (which also reduces real GDP somewhat).

31. **(E)** (Chapter 12) The consumer price index will not be affected by the increase in the price of the forklifts because forklifts are an industrial product, not a consumer product. The GDP deflator is not affected because import prices are ignored by the deflator.

32. **(B)** (Chapter 17) When prices rise people and firms want more money in their wallets and checking accounts in order to conduct their transactions.

33. **(A)** (Chapter 19) If income in America falls relative to the rest of the world, then Americans' demand for imports will decrease. Therefore, the supply of dollars will decrease relative to the demand for dollars. In turn, the value of the dollar increases.

34. **(C)** (Chapter 16) If the Fed increases bank reserves, but banks decide to simply hold onto the new reserves, then the money expansion process will be curtailed. The process depends on banks using their new reserves to make loans out or buy investments.

35. **(D)** (Chapter 15) The government must borrow to finance the federal deficit and this raises the demand for loanable funds. The result will be an increase in the real interest rate and decrease in investment spending. This chain of events is known as crowding out.

36. **(C)** (Chapter 13) Fisher's Hypothesis states that the nominal interest rate equals the real interest rate plus expected inflation.

37. **(A)** (Chapter 14) If the price level in the economy is below the equilibrium price level, then the quantity of products demanded will exceed the quantity supplied. There will be a shortage, and shortages drive prices up.

38. **(A)** (Chapter 12) Products get counted in GDP in the period they are produced. If they are produced but not sold, then they are in inventory. The change in inventories is part of GDP. Inventory changes are included in investment.

39. **(B)** (Chapter 17) Reducing taxes is a stimulatory fiscal policy, and open market purchases are expansionary monetary policy.

40. **(D)** (Chapter 15) The multiplier is 1/(1 – MPC). Therefore, the higher the MPC, the higher the multiplier. With a higher multiplier, changes in government spending will have more impact on real GDP.

41. **(C)** (Chapters 12 and 13)

Calculating GDP for 2005

Production	Price	Value
10 Pizzas	$17	$170
30 Sodas	$3	$90
		GDP = $260

Calculation real GDP for 2005

Produc	Price	Value
10 Pizzas	$10	$100
30 Sodas	$1	$30
		Real GDP = $130

Calculating the GDP deflator for 2005

$260/130 \times 100 = 200$

42. **(C)** (Chapter 14) Aggregate demand must decrease for real GDP and the price level to fall. A decline in investment causes aggregate demand to decrease.

43. **(B)** (Chapter 18) Shifts such as these are the result of a technological advance or increase in resources that benefit only one of the two industries. If the economy produced only guns, then an increase in the number of cows would not help increase production.

44. **(E)** (Chapter 19) Higher real interest rates attract foreign investors. These investors demand the nation's currency, which in turn appreciates its value. This makes domestic products more expensive to foreigners and foreign products less expensive to domestic citizens. Thus, net exports decrease.

45. **(A)** (Chapter 15) Real output declined and the price level fell during the Great Depression. This can only be the result of aggregate demand shifting left—a lack of demand or spending.

46. **(A)** (Chapter 14) In Classical theory, a recession causes wages and prices to fall. The falling prices stimulate demand for products, while the falling wages stimulate demand for labor. This pickup in demand ends the recession and brings about full employment.

47. **(D)** (Chapter 13)

$$\text{CPI} = \frac{\text{Total Cost This Period}}{\text{Total Cost Base Period}} \times 100 = \frac{400}{200} \times 100 = 200$$

48. **(B)** (Chapter 17) Contractionary monetary policy means decreasing the money supply. The Fed would increase the discount rate, which results in a higher nominal interest rate. Higher interest rates discourage spending, which decreases aggregate demand.

49. **(C)** (Chapter 17) When the return on bonds and other assets rises, people and firms want to hold less money in their wallets and checking accounts and, instead, put the money into these assets with high returns.

50. **(D)** (Chapter 17) Monetarists feel that changes in the money supply have a profound impact on nominal GDP. According to the equation of exchange, this would not be true if the velocity of money fluctuated in the opposite direction of the change in the money supply.

51. **(E)** (Chapter 18) Economic growth is stimulated by investment in resources. Education enhances one of the most important resources in the economy—labor.

52. **(A)** (Chapter 14) Only a decrease in short-run aggregate demand could cause an increase in the price level and a decrease in real GDP. It sounds odd, but a prolonged period of bad weat[illegible]roughts, monsoons, etc.) destroys resources such as farmland and other plant a[illegible]pment. Aggregate supply shifts left when fewer resources are available.

53. **(B)** (Chapter 19) A trade deficit means a country's imports exceed its exports. In this case a country is consuming more than it is producing.

54. **(E)** (Chapter 12) The income and expenditure approaches to calculating GDP highlight the fact that GDP measures not only production, but income as well.

55. **(E)** (Chapter 17) The three primary tools at the Fed's disposal for increasing the money supply are lowering reserve requirements, lowering the discount rate, and buying bonds on the open market.

56. **(C)** (Chapters 15 and 17) Aggregate demand needs to be decreased to close an inflationary gap. This can be accomplished with contractionary monetary policy (decreasing the money supply) or contractionary fiscal policy (increasing taxes or reducing government spending).

57. **(C)** (Chapter 19) One way to solve this problem is to put all the different prices in dollar terms:

Country	$ Price of a Big Mac
America	$3
England	2 pounds ÷ 0.5 = $4
Mexico	50 pesos ÷ 10 = $5
China	200 yuan ÷ 100 = $2

The Mexican Big Mac costs 50 pesos, which translates into $5. This is the most expensive Big Mac.

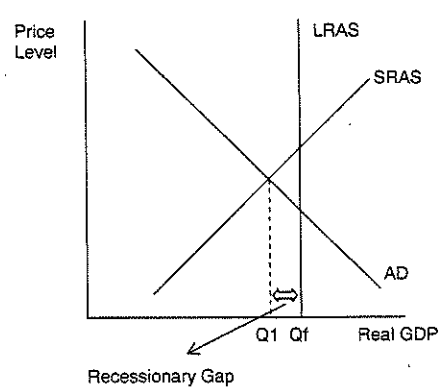
58. **(B)** (Chapter 19) Potential GDP is how much could be produced using all resources fully and efficiently. In order for potential GDP to fall, resources must become less available or inefficiencies must be introduced into the production process. Lowering the retirement age means less labor is available.

59. **(B)** (Chapter 15) The GDP deflator equals (nominal GDP/real GDP) × 100. In this case, ($1,500/$1,000) × 100 = 150.

60. **(C)** (Chapter 13) People like this are neither employed nor unemployed according to the Bureau of Labor Statistics because they are not counted as part of the labor force. To be in the labor force, one must be actively seeking employment or employed.

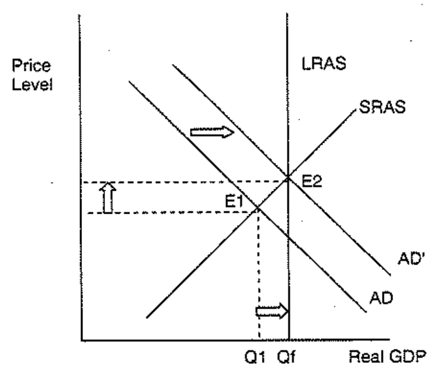
Free-Response Answers

1. (a)



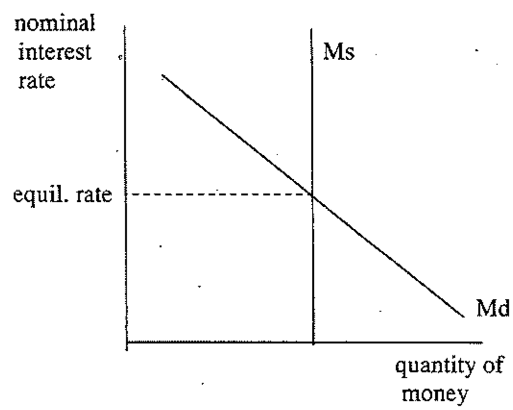
(b) (i) An income tax cut leaves households with more disposable income, which results in an increase in spending. Aggregate demand would increase. This would cause the equilibrium price level and the equilibrium level of real GDP to increase.

(ii) Aggregate demand would shift to the right:



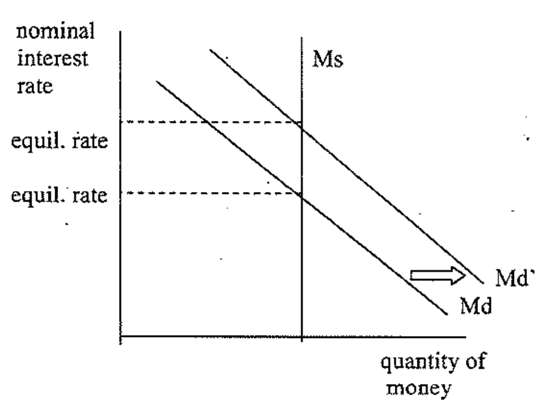
The equilibrium point moves from E_1 to E_2 with the income tax cut. The graph shows that this implies a higher equilibrium price level and a higher level of real GDP.

(c)



(i) The increase in the equilibrium price level serves to increase the demand for money, as does the increase in the level of real GDP. The increased demand for money, in turn, raises the nominal rate of interest.

(ii)



The increase in the demand for money serves to raise the equilibrium nominal interest rate.

(iii) The increased nominal rate of interest will impact the economy in a variety of ways: (1) Higher interest rates will encourage saving and reduce consumption; (2) investment will fall; and (3) higher interest rates will increase the value of the dollar and thereby lower net exports. All in all, higher interest rates tend to reduce aggregate demand and thus reduce the impact of the initial tax cut. The tendency of interest rates to rise with expansionary fiscal policy and consequently reduce the fiscal thrust is called "crowding out."

2. (a) The value of the dollar will decrease because the drop in interest rates will mean that fewer foreigners will want to invest in the United States. This, in turn, implies that the demand for the dollar will fall. A decline in demand for the dollar results in a depreciation.

   (b) Net exports will rise because the value of the dollar has depreciated. A fall in the value of the dollar will raise U.S. exports (our goods are less expensive to foreigners) and lower U.S. imports (foreign goods are more expensive to Americans after the depreciation of the dollar).

   (c) The Federal Reserve, in conjunction with the Department of the Treasury, could prevent the depreciation of the dollar outlined above. Basically, the Federal Reserve would use its foreign currency reserves to buy U.S. dollars on the international market. This increase in the demand for dollars would offset decline in demand due to lower interest rates.

3. An open market purchase of $7 million by the Federal Reserve Bank will serve to increase the money supply by more than $7 million. The purchase itself puts $7 million in new reserves into the banking system. Banks then make loans or buy investments with these additional reserves. The loans and investments generate new deposits, which are additions to the money supply.

   (a) When the reserve ratio is five percent, the money multiplier is 20 (= 1/0.05). This implies that any change in bank reserves could possibly be magnified 20 times. Therefore, the open market purchase of $7 million could lead to a $140 million (= $7 million × 20) increase in M1.

   (b) The $140 million figure is based on the assumption that banks use their additional reserves as much as possible to make loans or buy investments. If banks hold reserves over and above the requirements, then the money expansion process will be diminished. The money supply will expand by less than $140 million if banks hold reserves above the required amount.

   (c) The money supply is unaffected in this case. The corporation's bank account declines by $7 million while the seller's account rises by the same amount. No new reserves are added to the system, so the money supply does not change.