Final Exam
Solutions

ECON 101-002

Summer I 2017

Name: _____

ONYEN: _____

PID: _____

Honor Code Signature: _____

Directions: Choose the option that best answers the question given.

Economic Growth

1. Which of the following is NOT a determinant of a country's long-run productivity?
   (a) Human capital
   (b) The money supply
   (c) Technological knowledge
   (d) Natural resources

2. Which of the following government policies is *least* likely to increase economic growth?
   (a) Increase restrictions on imported goods.
   (b) Increase expenditures on public education.
   (c) Reduce restrictions on foreign capital investment.
   (d) Eliminate widespread corruption.

3. Which of the following would be considered an increase in human capital?
   (a) An increase in the use of heart disease centers.
   (b) The discovery of a cure for broken hearts.
   (c) An increase in the number of heart disease researchers.
   (d) An increase in the training of heart disease researchers.

4. Productivity is defined as
   (a) the stock of equipment and structures that are used to produce goods and services.
   (b) the inputs into the production of goods and services that are provided by nature.
   (c) the "rules of the game" that shape social interactions and structure economic incentives.
   (d) the quantity of goods and services produced from each unit of labor input.

5. A country has an annual growth rate of real GDP per capita of 2.5%. Real GDP per capita in 2016 is \$20,000. Real GDP per capita in the country will be at least \$40,000 by
   (a) 2040.
   (b) 2030.
   (c) 2035.
   (d) 2045.

Solow Model

6. Consider Table 1.

Table 1: Production in Utopia

t	k	y	i	d	$\hat{y}$
0			x	y	—
1					.95%
2					z

Under the assumptions of the Solow Model, which of the following is true?
   (a) $x < y$ and $z > .95\%$
   (b) $x > y$ and $z > .95\%$
   (c) $x > y$ and $z < .95\%$
   (d) $x < y$ and $z < .95\%$

7. A country's output per worker is described by the function $y = 2\sqrt{k}$. Capital depreciates at a rate of 2% and the labor force remains the same each period (i.e., $n = 0$). If the country sets a savings rate of 30%, what will be the level of output per worker once the country reaches its steady state?
   (a) 900
   (b) 45
   (c) 60
   (d) 30

8. Figure 1 shows the identical production, investment and depreciation functions for countries X and Y.

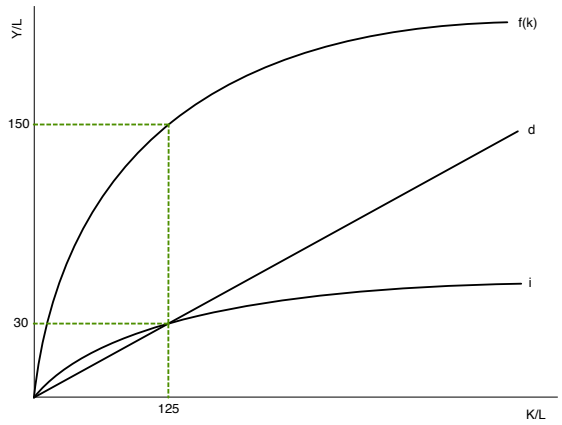

Figure 1: Production, Investment, and Depreciation

Country X currently has k_x^0 units of capital and a negative rate of output growth, while country Y currently has k_y^0 units of capital and a positive rate of output growth. If k_x^* and k_y^* denote the steady-state levels of capital in country X and Y, respectively, which of the following statements is true?

(a) $k_x^0 < 125$ and $k_y^0 > 125$

(b) $k_x^* < 125$ and $k_y^* > 125$

(c) $k_x^* > 125$ and $k_y^* < 125$

(d) $k_x^0 > 125$ and $k_y^0 < 125$

9. Suppose a country is currently at its steady state. All else equal, if the country's depreciation rate permanently increases, how many of the statements must be TRUE?

i. The new steady state consumption level will be less than the old steady state consumption level.

ii. The new steady state investment level will be less than the old steady state investment level.

iii. The new steady state level of capital will be less than the old steady state level of capital,

iv. The new steady state level of output will be less than the old steady state level of output.

(a) 0

(b) 1

(c) 2

(d) 3

(e) 4

10. Refer to Table 2.

Table 2: Production in Utopia

k	y	MP_k
1000	100	—
1001	x	z
1002	y	5

Under the assumptions of production functions in the Solow model, which of the following holds true?

(a) $x < y$ and $z > 5$

(b) $x > y$ and $z > 5$

(c) $x < y$ and $z < 5$

(d) $x > y$ and $z < 5$

(e) Impossible to know without more information.

Savings & Investment

11. A company is planning to finance the construction of a new factory, but has limited funds. In order to procure the necessary funds, the company is likely to

(a) demand loanable funds by buying bonds.

(b) supply loanable funds by selling bonds.

(c) demand loanable funds by selling bonds.

(d) supply loanable funds by buying bonds.

12. A closed economy has private savings equal to \$500 billion and public savings of −\$20 billion. If consumption in the economy is \$400 billion and taxes equal \$50 billion, then government spending is _____billion and total spending (i.e., GDP) in the economy is _____billion.

(a) \$70; \$950

(b) \$50; \$950

(c) \$70; \$900

(d) \$30; \$600

13. You buy a bond today that promises to pay \$50 in one year, \$50 in two years, and \$1,050 in three years. If the market interest rate is 6% and remains so for the next three years, which of the following represents the price of the bond if you decide to sell it in one year after receiving the first \$50 payment?

    (a) $P = \frac{\$50}{(1.06)} + \frac{\$50}{(1.06)^2} + \frac{\$1{,}050}{(1.06)^3}$

    (b) $P = \frac{\$50}{(1.06)} + \frac{\$1{,}050}{(1.06)^2}$

    (c) $P = \$50 + \frac{\$50}{(1.06)} + \frac{\$1{,}050}{(1.06)^2}$

    (d) $P = \$50 + \frac{\$1{,}050}{(1.06)}$

    (e) None of the above.

14. In the presence of a savings tax credit, how many of the following are FALSE?

    (i) The real interest rate will increase.

    (ii) The quantity of investment will decrease.

    (iii) The quantity of savings will increase.

    (a) 2

    (b) 0

    (c) 1

    (d) 3

15. Suppose you currently hold a bond that promises to pay \$100 in a year, \$100 in two years, and \$1,100 in three years. If you wish to sell the bond today in order to buy a new bicycle, which of the following market interest rates would allow you to sell the bond for the highest price?

    (a) 5%

    (b) 7%

    (c) 10%

    (d) 8%

Unemployment

16. Jack loses his job working as a consultant and decides to take time off to explore Europe. Jill has been looking for work for some time, but gave up looking for a job 2 months ago. Given this, Jack's actions will _____the unemployment rate while Jill's will _____the unemployment rate.

    (a) increase; increase

    (b) decrease; increase

    (c) decrease; decrease

    (d) increase; decrease

    (e) None of the above

17. How many of the following will lead to the unemployment rate not being a good reflection of economic conditions?

    i. Woody leaves his job at UNC and starts his own toy shop business.

    ii. Morgan wishes to have a job, but stopped looking for work after being discouraged by few call backs.

    iii. Jonathan isn't actively looking for work, but claims to do so in order to receive unemployment benefits.

    iv. Allen is fired from his job at McDonald's and immediately begins looking for work at other fast food joints.

    (a) 0

    (b) 1

    (c) 2

    (d) 3

    (e) 4

18. John Doe looked for a new job for two months when he and his family moved to South Florida, but stopped looking for work six weeks ago because his wife landed a prominent position at the University of Miami. As of right now, John is considered _____by the BLS.

    (a) frictionally unemployed

    (b) structurally unemployed

    (c) not in the labor force

    (d) cyclically unemployed

19. Natalie just graduated from college. In order to devote all her efforts towards her education, she didn't hold a job while in school. Now, she is going to cruise around the country on her motorcycle for awhile before she starts looking for work. As a result, the unemployment rate

    (a) increases, and the labor-force participation rate increases.

    (b) is unaffected, and the labor-force participation rate is unaffected.

    (c) increases, and the labor-force participation rate decreases.

    (d) increases, and the labor-force participation rate is unaffected.

20. Which of the following represents an example of structural unemployment?

    (a) Tina is currently looking for work as a Barista. She only started looking for work a few weeks ago, but it seems that most coffee shops are still recovering from an economic downturn and are hesitant to hire.

    (b) Jameson just moved to the City of Brotherly Love to find work as an accountant. It is taking him some time to polish his resume, send out applications, and receive call backs from interested firms.

    (c) The city council of Ski Mountain Resort observes that unemployment in the region increases during the summer months.

    (d) Tommy worked at a factory, but was laid off recently because a machine could perform his job more efficiently.

The Monetary System

21. Suppose the Fed sets the minimum reserve ratio at 25%. If banks choose to hold 28% of deposits as reserves and the Fed increases the money supply by $5 million, then the maximum amount the money supply could potentially increase is

    (a) less than $18 million.

    (b) exactly $20 million.

    (c) more than $18 million but less than $20 million.

    (d) more than $20 million.

22. Suppose an economy contains 2,000 $1 bills. If people initially deposit half their currency as demand deposits while banks maintain 100% reserves, the quantity of money would be _____. If, however, people initially deposit all their currency as demand deposits while banks maintain 100% reserves, the quantity of money is _____.

    (a) $2,000; $2,000

    (b) $2,000; $1,000

    (c) $1,000; $1,000

    (d) $1,000; $2,000

23. Jonathan takes $500 of currency from her wallet and deposits it in a checking account. If the bank adds the entire $500 to reserves, the money supply _____, but if the bank lends out some of the $500, the money supply _____.

    (a) increases; increases even more

    (b) increases; increases by less

    (c) is unchanged; increases

    (d) decreases; decreases by less

24. Which of the following policy combinations would consistently work to increase the money supply?

    (a) Buy government bonds, decrease reserve requirements, and decrease the discount rate.

    (b) Sell government bonds, decrease reserve requirements, and decrease the discount rate.

    (c) Sell government bonds, increase reserve requirements, and increase the discount rate.

    (d) Buy government bonds, decrease reserve requirements, and increase the discount rate.

Money Growth & Inflation

25. Unexpected deflation will
    (a) lower the real value of debts and redistribute wealth from lenders to borrowers.
    (b) raise the real value of debts and redistribute wealth from borrowers to lenders.
    (c) lower the real value of debts and redistribute wealth from borrowers to lenders.
    (d) raise the real value of debts and redistribute wealth from lenders to borrowers.

26. Consider Figure 2, which shows the market for money in Portlandia. P is the overall price level in the economy.

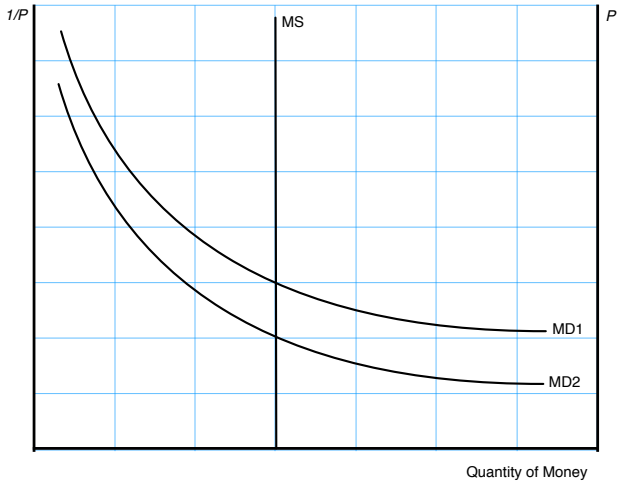

Figure 2: The Money Market

If the price level in the economy increased as a result of a money demand shift, then it must be that the money demand curve
    (a) shifted from MD1 to MD2 and the value of money increased.
    (b) shifted from MD1 to MD2 and the value of money decreased.
    (c) shifted from MD2 to MD1 and the value of money decreased.
    (d) shifted from MD2 to MD1 and the value of money increased.

27. You decide to put $500 dollars into a savings account advertising 2% annual interest. After a year, you withdraw your money and have to pay a tax of 20% on your interest earnings. If inflation over the year was 1.75%, then your after-tax nominal interest rate was _____and your purchasing power _____.
    (a) .35%; increased
    (b) .6%; decreased
    (c) 1.6%; decreased
    (d) .35%; decreased
    (e) 1.6%; increased

28. Suppose you lend your roommate $100 for one year at 12% nominal interest. You both expect the real interest rate on the loan to be 9%. If at the end of the loan wealth was transferred from your roommate to you, then actual inflation over the course of the year could have been
    (a) 7%.
    (b) 9%.
    (c) 14%.
    (d) 0%.
    (e) Either (a) or (d).

29. Which of the following is NOT a cost of inflation?
    (a) Shoeleather costs
    (b) Tax distortions
    (c) Arbitrary redistribution of wealth
    (d) Menu costs
    (e) All of the above are costs of inflation.

30. The quantity theory of money concludes that an increase in the money supply causes
    (a) a proportional increase in prices.
    (b) a proportional increase in velocity.
    (c) a proportional increase in real output.
    (d) a proportional decrease in velocity.
    (e) a proportional decrease in prices.

Aggregate Demand & Supply

31. Which of the following is an example of a negative real shock?
    (a) Consumers become pessimistic about the economy and spend less.
    (b) The Federal Reserve is concerned about inflation and decreases the money supply.
    (c) The government increases taxes on consumers.
    (d) A hurricane destroys numerous factories along the shoreline.
    (e) All of the above.

32. Assume an economy currently has real GDP growth of 4%. If spending growth along the current AD curve is 4%, then inflation must be _____. Additionally, if the Federal Reserve decides to increase the discount rate then the aggregate demand curve will _____.
    (a) 8%; shift left
    (b) 0%; shift right
    (c) 0%; shift left
    (d) 8%; shift right
    (e) None of the above.

33. Refer to Figure 3.

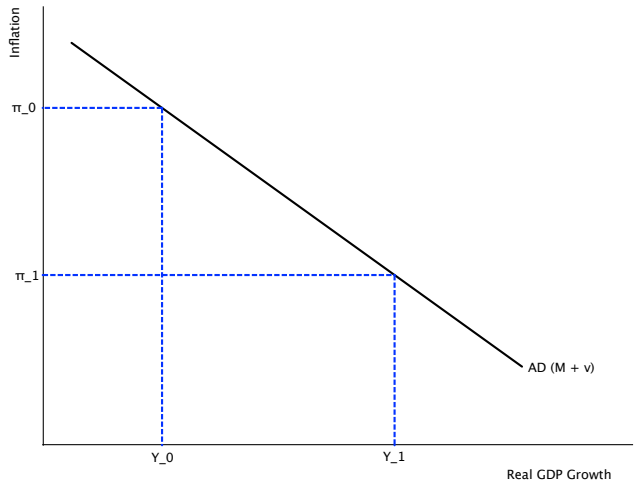

Figure 3: Aggregate Demand Curve

Which of the following statements is correct?

(a) $\pi_0 + \pi_1 = \vec{Y_0} + \vec{Y_1}$.

(b) $\pi_0 + \vec{Y_1} = \pi_1 + \vec{Y_0}$.

(c) $\pi_0 + \vec{Y_1} = \vec{M} + \vec{v}$.

(d) $\pi_1 + \vec{Y_0} = \vec{M} + \vec{v}$.

(e) None of the above.

Refer to Figure 4 for questions 34 - 36.

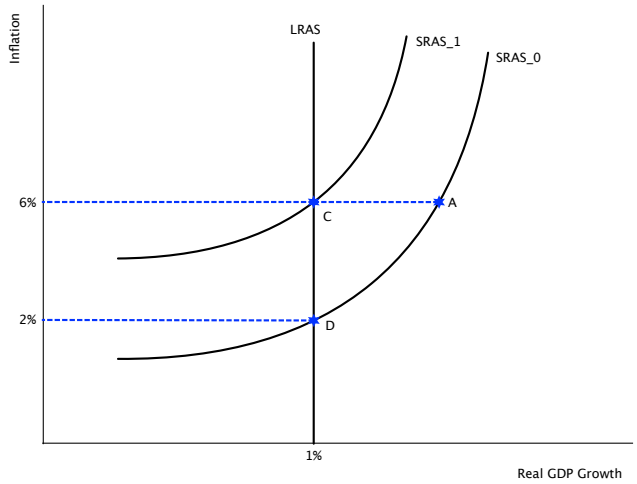

Figure 4: SRAS and LRAS

34. Expected inflation at point A is _____, which is _____actual inflation.
    (a) 2%; greater than
    (b) 2%; less than
    (c) 6%; equal to
    (d) 6%; greater than

35. At point D, expected inflation is
    (a) less than expected inflation at point A.
    (b) more than expected inflation at point A.
    (c) more than expected inflation at point C.
    (d) less than expected inflation at point C.
    (e) unknown.

36. At point A, real GDP growth is
    (a) greater than 1%.
    (b) greater than 2%.
    (c) equal to 1%.
    (d) less than 1%
    (e) unknown.

Monetary & Fiscal Policy

37. If the Federal Reserve wished to enact contractionary monetary policy, how many of the following policies could be enacted to achieve their goal?

    i. Increase the discount rate
    ii. Increase taxes
    iii. Open market purchases of government bonds

    (a) 0
    (b) 1
    (c) 2
    (d) 3

38. Suppose spending growth in the economy is currently 1%. If the Federal government increases their spending by 4% and spending growth in the economy is now 3%, we can say that
    (a) The government enacted contractionary fiscal policy
    (b) The multiplier effect was less than the crowding out effect
    (c) The multiplier effect was greater than the crowding out effect
    (d) The aggregate demand curve shifted to the left as a result of this policy.

Consider Figure 5 for questions 39 - 40.

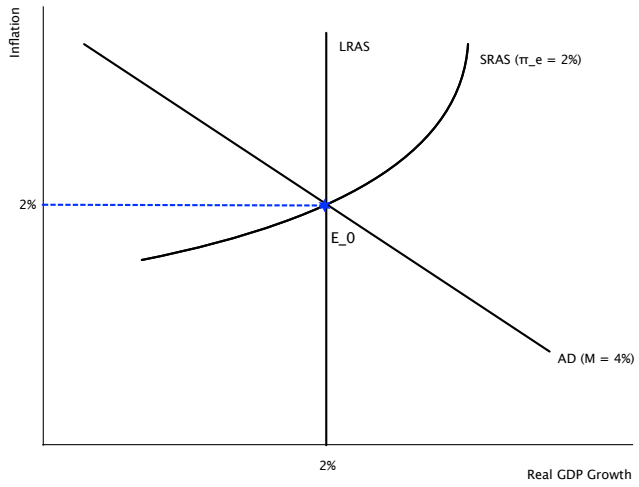

Figure 5: SRAS and LRAS

39. The Economy is currently operating at point E_0 and money growth is 3%. Now, suppose that spending growth permanently decreases by 5% due to a decrease in consumption spending. If this causes real GDP in the short-run to fall to -2%, the inflation in the short-run will be

    (a) 1%

    (b) 0%

    (c) 2%

    (d) 6%

    (e) 4%

40. If the economy was still at its short-run equilibrium and the Federal Reserve wished to return the economy to its original long-run point E_0, then they would need to

    (a) increase money growth to 5%.

    (b) increase money growth to 10%

    (c) increase money growth to 8%.

    (d) increase money growth to 6%.

Introduction to Economics

41. A rational individual will partake in some action as long as

    (a) the total benefit exceeds the total cost.

    (b) the marginal benefit exceeds the opportunity cost.

    (c) the marginal benefit exceeds the marginal cost.

    (d) the marginal benefit is positive.

42. The opportunity cost of a choice is defined as
    (a) the total value of the next best alternative.
    (b) the total value of all other alternatives.
    (c) the out-of-pocket costs of the next best alternative.
    (d) the total value of the selected choice.

The Gains from Trade

43. Suppose Kenya and Sri Lanka have the opportunity costs of producing limes and oranges outlined in Table 3.

Table 3: Opportunity cost of one:

	Lime	Orange
Kenya	1/2	x
Sri Lanka	y	8

.

Given this information, we can say that
    (a) Kenya has the comparative advantage in producing limes and Sri Lanka has the comparative advantage in producing oranges.
    (b) Kenya has the absolute advantage in producing oranges and Sri Lanka has the absolute advantage in producing limes.
    (c) Kenya has the absolute advantage in producing limes and Sri Lanka has the absolute advantage in producing oranges.
    (d) Kenya has the comparative advantage in producing oranges and Sri Lanka has the comparative advantage in producing limes.

44. The gains from trade are the result of two partners trading based off their
    (a) comparative advantage.
    (b) absolute advantage.
    (c) total productivity.
    (d) technological advantage.

Supply and Demand

Consider each of the following scenarios for questions 45 - 46.

i. The university book store has a fire sale on new textbooks at the end of the semester.
ii. The price of used textbooks falls.
iii. The expected future price of new textbooks increases.
iv. A hurricane destroys many of the trees used to create pulp for paper.

45. How many of the statements would shift the demand curve in the market for new textbooks?
    (a) 1
    (b) 0
    (c) 3
    (d) 2
    (e) 4

46. How many of the statements would increase the current price of new textbooks?
    (a) 1
    (b) 2
    (c) 0
    (d) 3
    (e) 4

47. Table 4 shows the quantity supplied and demanded at certain prices.

Table 4: Prices and Quantities

Price	Q_d	Q_s
\$10	50	30
\$12	45	35
\$14	40	40
\$16	35	45
\$18	30	50

If there is currently a surplus of 15 units, then the price in the market must be
    (a) greater than \$16, but less than \$18.
    (b) less than \$14.
    (c) greater than \$14, but less than \$16.
    (d) greater than \$18.

Government Policy

48. A price ceiling is only binding if it is set
    (a) above the equilibrium market price.
    (b) equal to the equilibrium market price.
    (c) below the equilibrium market price.
    (d) either above or below the equilibrium market price - price ceilings are always binding.

49. Suppose the government is deciding on between imposing a tax on cigarettes or on luxury, P-Diddy style house boats. If their goal is to minimize the deadweight losses from the tax, the government should impose the tax on

    (a) either market - the deadweight loss will be the same.

    (b) the market for house boats.

    (c) the market for cigarettes.

    (d) neither market - the deadweight loss will necessarily exceed the tax revenues in both cases.

50. A binding minimum wage in the market for labor is an example of a _____and will create a _____.

    (a) price ceiling; shortage of labor

    (b) price floor; shortage of labor

    (c) price floor; surplus of labor

    (d) price ceiling; surplus of labor

51. A subsidy provided in a market with no externalities will create a deadweight loss because

    (a) it will reduce the number of transactions taking place, leading to unrealized gains from trade.

    (b) it will increase the number transactions taking place, leading to inefficient transactions.

    (c) it will decrease both consumer and producer surplus.

    (d) the increase in consumer and producer surplus is greater than the cost of the subsidy.

The Public Sector

52. In the presence of a negative externality, the government can maximize efficiency by

    (a) imposing a subsidy equal to the size of the external cost.

    (b) imposing a tax equal to the size of the external cost.

    (c) imposing a tax smaller than the size of the external cost.

    (d) imposing a tax greater than the size of the external cost.

    (e) None of the above maximize efficiency.

53. Consider Figure 6.

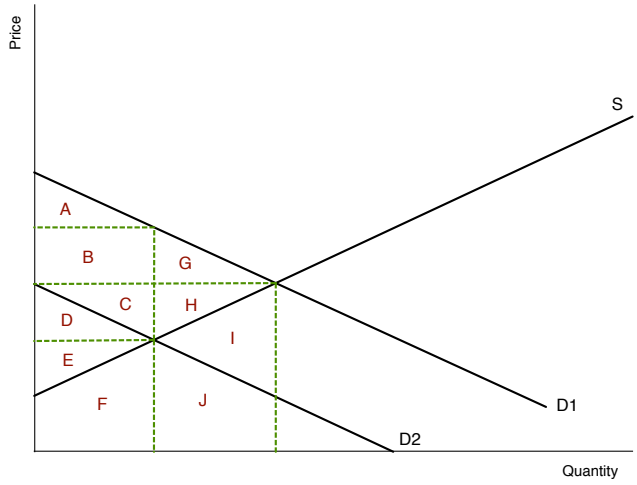

Figure 6: Market for Fanta

Suppose that the curve labeled D1 represents the social value curve in this market. In the absence of government intervention, the deadweight loss in the market is represented by area

(a) G + H

(b) G + H + I

(c) A + B + C

(d) D + E

Industrial Organization

54. Which of the following regarding a firm's production function (assuming labor is their only input) is TRUE?

(a) Eventually, the marginal product of labor will be decreasing.

(b) The marginal product of labor decreases initially, but continuously increases after some amount of labor.

(c) The marginal product of labor is always constant regardless of how much labor is employed.

(d) The marginal product of labor is always increasing regardless of how much labor is employed.

55. Which of the following is true regarding the relationship between the price charged by a monopoly, an oligopoly acting as a cartel, an oligopoly that is not cooperative, and a perfectly competitive firm?

    (a) monopoly > cartel > non-cooperative oligopoly > perfectly competitive firm

    (b) monopoly > cartel > non-cooperative oligopoly = perfectly competitive firm

    (c) monopoly = non-cooperative oligopoly > cartel > perfectly competitive firm

    (d) monopoly = cartel > non-cooperative oligopoly > perfectly competitive firm

56. Consider the game matrix below.

		Isabella		
		Run	Walk	Crawl
Noah	Run	4, 1	4, 4	1, 2
	Walk	3, 4	1, 3	3, 2
	Crawl	2, 4	2, 3	4, 6

    How many Nash Equilibria does this game have?

    (a) 2

    (b) 3

    (c) 1

    (d) 4 or more

    (e) 0

GDP and the CPI

57. Table 5 shows the prices and quantities produced of the only two goods in Uzbeki-beki-beki-Stan-Stan, grapes and olives, for the years 2000 and 2001. Assume 2000 is the base year.

Table 5: Grapes and Olives in UZN

Year	Grapes Produced	Price of Grapes	Olives Produced	Price of Olives
2000	20	\$2.10	25	\$4.10
2001	18	x	15	y

    In 2001, the value of real GPD

    (a) cannot be determined from this information.

    (b) is greater than real GDP in 2000.

    (c) is equal to real GDP in 2000.

    (d) is less than real GDP in 2000.

58. How many of the following transactions would affect the investment component of US GDP? Assume all of the transactions occur within the United States.

(i) Tina's Housekeeping Company purchases a new laptop that was manufactured in China.

(ii) Jane purchases a new bookshelf from Macy's.

(iii) Your parents buy government bonds.

(iv) A newly-wed couple buys a newly constructed home.

(a) 1

(b) 2

(c) 0

(d) 3

(e) 4

59. Suppose the nominal yearly earnings of minimum wage workers was $35,000 in both 2000 and 2010. If the purchasing power of minimum wage workers increased, it must be that

(a) the CPI in 2000 is lower than the CPI in 2010.

(b) the CPI in 2010 is lower than the CPI in 2000.

(c) the CPI in 2000 is the same as the CPI in 2010.

(d) any of the above could be true.

60. Table 6 shows the prices and quantities consumed of the only two goods in Uzbeki-beki-beki-Stan-Stan, grapes and olives, for the years 2010 and 2011. Assume that the typical basket of grapes and olives was determined by the quantity of each consumed in 2010.

Table 6: Grapes and Olives in UZN

Year	Grapes Consumed	Price of Grapes	Olives Consumed	Price of Olives
2010	20	$2.10	25	$4.10
2011	x	$2.15	y	$4.25

In 2011, the value of the Consumer Price Index (CPI)

(a) is greater than the CPI in 2010.

(b) is equal to the CPI in 2010.

(c) is less than the CPI in 2010.

(d) cannot be determined from this information.