ECON 201: Introduction to Macroeconomics
Professor Robert Gordon
Midterm Exam 1:
October 24, 2018

NAME _____

Circle the **TA session** you attend: Deborah - 3PM   Deborah - 4PM

Cassiano - 3PM   Cassiano - 4PM

Ola - 3PM   Ola - 4PM

Directions: This test is in two parts, a multiple choice question part and a short-answer part. Use this answer packet to complete the exam. Calculators are permitted. Books, notes, reference materials, etc. are prohibited. Good luck!

Part 1: Referring to the questions in the Multiple Choice Questions Packet, choose the one alternative that best completes the statement or answers the question. Each question is worth one point. There is no penalty to guessing, so be sure to answer all of them. Write your answers in the following table using capital letters.

1	6	11	16	21	26
2	7	12	17	22	27
3	8	13	18	23	28
4	9	14	19	24	29
5	10	15	20	25	30

Part 1: Multiple Choices

1. The university recently inherited a large mansion from a wealthy alumnus. The university plans to use the mansion for faculty parties and to house distinguished guests. The opportunity cost of the mansion to the university is:
   A) zero because it was a gift.
   B) the original cost of building the mansion.
   C) the amount the university would receive if it sold the mansion.
   D) the cost of catering the parties at the mansion.

2. The opportunity cost of something is:
   A) larger during periods of rising prices.
   B) equal to the monetary cost.
   C) smaller during periods of falling prices.
   D) what is given up to acquire it.

3. Individuals gain from trade because:
   A) of specialization in production.
   B) they can sell at a lower price than they can buy at.
   C) self-sufficiency is efficient.
   D) of the principle of absolute advantage.

4. The development of online ticket brokers, compared to the old system of buying tickets from brokers by telephone, has resulted in _____ in the quantity of tickets sold and in _____ in their average price.
   A) an uncertain change; an increase
   B) an uncertain change; a decrease
   C) a decrease; an uncertain change
   D) an increase; an uncertain change

Use the following to answer question 5:

Figure: Omar's Production Possibilities
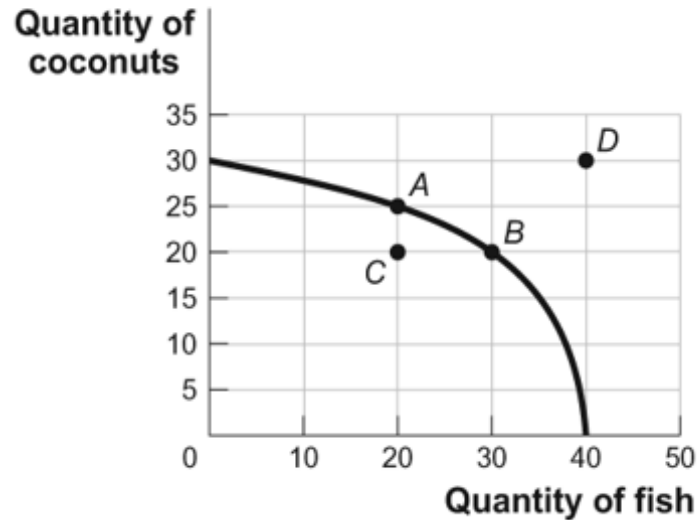
5. (Figure: Omar's Production Possibilities) Use Figure: Omar's Production Possibilities. Which point or points represent(s) a feasible combination of coconuts and fish?
   A) *A* only
   B) *A* and *B*
   C) *A, B,* and *C*
   D) *D* only

6. The growth of Uber _____ the price of a taxi medallion and _____ traffic congestion.
   A) increases; increases
   B) increases; decreases
   C) decreases; increases
   D) decreases; decreases

7. Which of the following policies are NOT used in the Japanese market for rice?
   A) subsidies
   B) tariffs
   C) price ceilings
   D) B) and C)

Use the following to answer question 8:

Figure: Strawberries and Submarines II
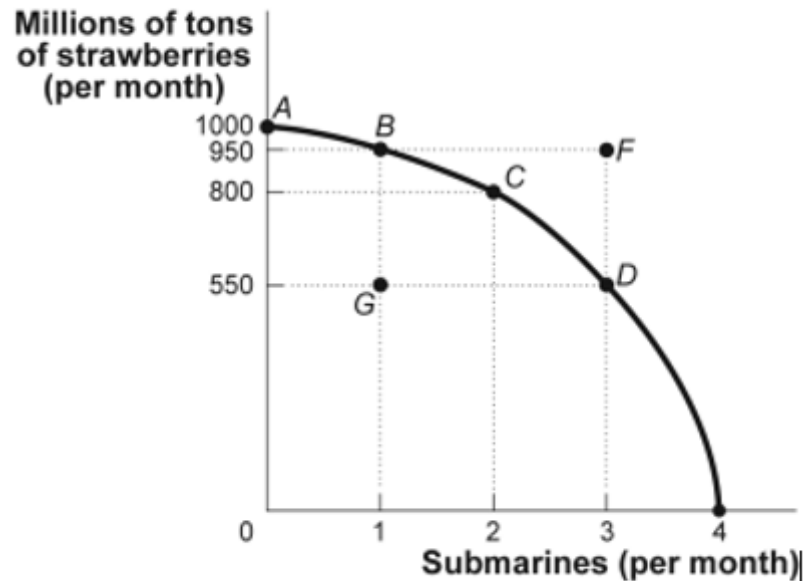
8. (Figure: Strawberries and Submarines II) Use Figure: Strawberries and Submarines II. Suppose the economy is operating at point *B*. Achieving production at point *F* would require that the economy:
   A) achieve full employment and an efficient allocation of resources.
   B) reduce its production of strawberries.
   C) reduce its production of submarines.
   D) improve its technology or increase its resources.

9. When health insurance charges everyone the same rate and healthy people drop out of the insurance plan, thus raising its costs to insure sicker people, this is an example of :
   A) the sickness puzzle
   B) the death spiral
   C) inflation
   D) pre-existing conditions

Use the following to answer question 10:

Table: Coffee and Salmon Production Possibilities II

	Coffee	Salmon
Brazil	40	20
Alaska	20	20

10. (Table: Coffee and Salmon Production Possibilities II) Use Table: Coffee and Salmon Production Possibilities II. This table shows the maximum amounts of coffee and salmon, both measured in pounds, that Brazil and Alaska can produce if they just produce one good. Alaska has an absolute advantage in producing:
    A) coffee only.
    B) salmon only.
    C) both coffee and salmon.
    D) neither coffee nor salmon.

11. From 1946 to 1980 the real income of low-income people grew _____ high-income people and from 1980 to 2014 the real income of low-income people grew _____ high-income people.
    A) at the same rate as; slower than that of
    B) faster than that of; at the same rate as
    C) slower than that of; faster than that of
    D) faster than that of; slower than that of

12. The United States international economy is best described by _____ and _____.
    A) trade deficit; borrowing from foreigners
    B) trade deficit; lending to foreigners
    C) trade surplus; borrowing from foreigners
    D) trade surplus; lending to foreigners

13. Venezuela today provides an example of _____ and _____.
    A) economic growth; inflation
    B) deflation; food shortages
    C) food shortages; inflation
    D) economic growth; deflation

Use the following to answer question 14:

Scenario: Countries A and B
Two countries, A and B, produce two goods, wheat (W) and steel (S). Each has a linear production possibility frontier in both goods. If country A spends all of its available resources to produce wheat, it can produce 500 tons of wheat and no steel. If it uses all of its resources to produce steel, it can produce 250 tons of steel and no wheat. If country B spends all of its available resources producing wheat, it can produce 400 tons of wheat, and if it spends all of its resources on the production of steel, it can produce 400 tons of steel.

14. (Scenario: Countries A and B) Use Scenario: Countries A and B. Given this information, country _____ has a comparative advantage in the production of wheat, and country _____ has a comparative advantage in the production of steel.
    A) A; A
    B) A; B
    C) B; B
    D) B; A

15. The production possibility frontier illustrates:
    A) the maximum quantity of one good that can be produced given the quantity of the other good produced.
    B) that, when markets don't achieve efficiency, government intervention can improve society's welfare.
    C) the inverse relation between price and quantity of a particular good.
    D) that people usually exploit opportunities to make themselves better off.

16. In the market for canned pinto beans, _____ will increase if income increases and if pinto beans are a(n) _____ good.
    A) demand; inferior
    B) demand; normal
    C) supply; inferior
    D) supply; normal

17. Suppose that the demand curve for good Z is downward sloping. If the price of good Z decreases because of a shift in supply, this will cause:
    A) an increase in the demand for good Z.
    B) a movement along the demand curve of good Z.
    C) no effect on the quantity demanded of good Z.
    D) fewer people to purchase good Z.

18. Recent research suggests that certain plastic containers may have cancer-causing particles in them. As a result of this research being made public, one would expect:
    A) the demand for such containers to decrease.
    B) the quantity demanded for such containers to increase.
    C) no effect.
    D) the price of the containers to change because of a movement along the demand curve.

19. Suppose oranges and clementines are substitutes. Holding everything else constant, if the price of oranges increases, then the demand for _____ will _____.
    A) clementines; increase
    B) clementines; decrease
    C) oranges; increase
    D) oranges; decrease

20. Japan must give up the production of 75 computers to produce 25 additional cellular telephones. The opportunity cost of producing 3 computers is _____ cell phone(s).
    A) 1
    B) 3
    C) 22
    D) 28

21. If a nation exports a good when the economy is opened to trade, relative to the autarky price, the domestic price of the good will _____ and domestic consumption will _____.
    A) rise; rise
    B) rise; fall
    C) fall; rise
    D) fall; fall

Use the following to answer question 22:

Price (per gallon) vs Quantity of gasoline (per month)
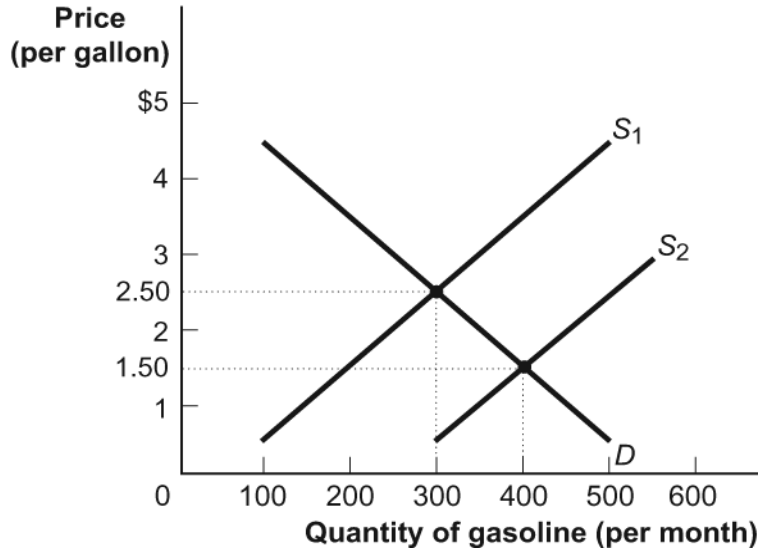
22. (Figure: Demand and Supply of Gasoline) Use Figure: Demand and Supply of Gasoline. A factor that may have changed supply from S_1 to S_2 is:
    A) better technology in the production of gasoline.
    B) increased demand.
    C) lower labor productivity in gasoline production.
    D) increased prices of substitutes in production for gasoline.

23. (Figure: The Market for Hybrid Cars) Use Figure: The Market for Hybrid Cars. If there were a binding price ceiling in the market for hybrid cars, one possible price would be equal to _____; consumers would demand _____; and producers would supply _____.
    A) P_1; Q_1; Q_3
    B) P_2; Q_2; Q_2
    C) P_1; Q_3; Q_1
    D) P_3; Q_3; Q_1

24. A binding price floor is a _____ price set _____ the equilibrium price.
    A) minimum; at
    B) maximum; below
    C) minimum; above
    D) maximum; above

25. When the minimum wage increases, which outcome is MOST likely?
    A) Unemployment among skilled workers decreases.
    B) Fewer workers are willing to work off the books.
    C) Skilled workers will outnumber unskilled workers.
    D) Unemployment among unskilled workers increases.

Use the following to answer question 17:

Figure: Rent Controls
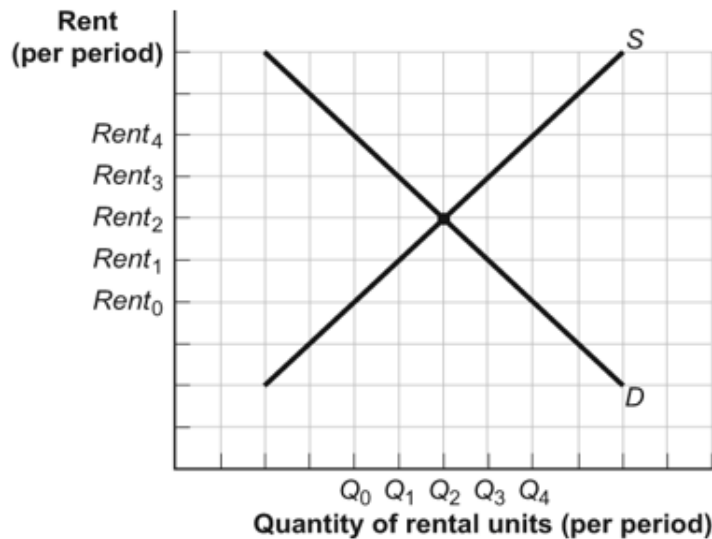
26. (Figure: Rent Controls) Use Figure: Rent Controls. If rent controls are set at $Rent_0$:
    A) the shortage of rental units is the distance $Q_1 - Q_3$.
    B) some renters will be willing to pay a price as high as $Rent_4$ for Q_0 units.
    C) no one will have to pay a higher actual price than $Rent_0$, nor will anyone be willing to do so.
    D) there will be a surplus of rental units.

27. When the government removes a binding price floor:
    A) quantity demanded will decrease and quantity supplied will increase.
    B) quantity demanded will increase and quantity supplied will decrease.
    C) excess demand will develop.
    D) excess supply will develop.

Use the following to answer question 28:

Figure: The Domestic Supply and Demand for SUVs in the United States

Price of SUVs
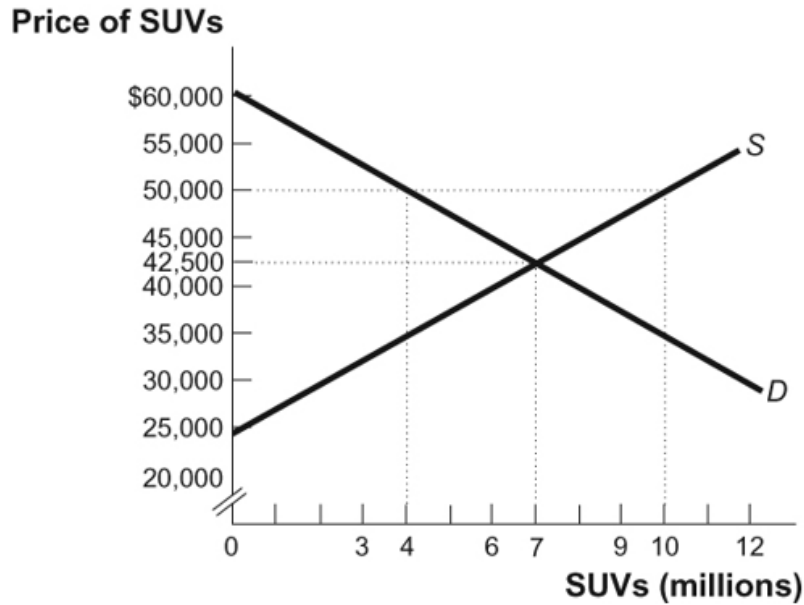
28. (Figure: The Domestic Supply and Demand for SUVs in the United States) Use Figure: The Domestic Supply and Demand for SUVs in the United States. Suppose the world price equals $50,000 and there is free trade. The United States would _____ SUVs.
   A) import 6 million
   B) export 6 million
   C) export 2 million
   D) import 2 million

29. If labor is scarce in Sri Lanka but capital is abundant, when Sri Lanka opens to trade, the price of labor will _____ and the price of capital will _____.
   A) rise; rise
   B) fall; fall
   C) rise; fall
   D) fall; rise

Use the following to answer question 30:

Table: Production Possibilities for the United States and Canada

U.S. Production Possibilities	One Possibility	Another Possibility
Quantity of Cars (millions)	10	0
Quantity of Lumber (millions of board feet)	0	10

Canada Production Possibilities	One Possibility	Another Possibility
Quantity of Cars (millions)	2	0
Quantity of Lumber (millions of board feet)	0	12

30. (Table: Production Possibilities for the United States and Canada) Use Table: Production Possibilities for the United States and Canada. Both nations can produce cars and lumber. In _____, the opportunity cost of _____ cars is _____ board feet of lumber.
    A) the United States; 1 million; 10 million
    B) the United States; 10 million; 1 million
    C) Canada; 1 million; 6 million
    D) Canada; 1 million; 166,000

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Part 2: Short Questions

Solve the following problems in the provided space. *Show all your work clearly.*

Problem 1 (10 points)

Kelly and Helen can either make cheese or pizza during a day. If Kelly allocates all her time in making cheese she can make 12 pounds of it, and if she spends all her time making pizza she can make 10 pizzas. If Helen allocates all her time in making cheese she can make 6 pounds of it. Helen cannot make more than 4 pizzas because of an equipment shortage: she has only two ovens – each of them can be used to produce 2 pizzas a day. If she makes 4 pizzas, she can also make 3 pounds of cheese during a day.

You can assume that the production possibility frontiers (PPF) are linear.

1. Draw the PPFs of Kelly and Helen. Use separate graphs and put pizzas on the vertical axis and cheese (in pounds) on the horizontal axis. Make sure to label the intercepts clearly. (4 points)

    PPF for Kelly: pizza = 10 – 5/6 cheese

    PPF for Helen: pizza = 8 – 4/3 cheese

2. The opportunity cost of making pizza in terms of cheese for Kelly is _____, whereas for Helen it is _____. (2 points)

    6/5; 3/4

3. Kelly has a comparative advantage in _____ and an absolute advantage in _____. (2 points)

    cheese; cheese and pizza

4. Nicole gives 2 ovens to Helen as a birthday present. Now, what is the opportunity cost of a pizza for Helen? (Don't forget to specify the units!) (1 point)

    3/4 pounds of cheese

5. If they both specialize according to their comparative advantage, they can make _____ pounds of cheese and _____ pizzas in total. (1 point)
    12; 8

Problem 2 (8 points)

The following table shows quantities demanded and supplied according to prices in the market for soda in 2018.

PRICE ($/UNIT)	QUANTITY DEMANDED (CANS)	QUANTITY SUPPLIED (CANS)
4	10	9
5	8	12
6	6	15

1. What is the demand equation? (1 points)

P= - 1/2 Q + 9

2. What is the supply equation? (1 points)

P= 1/3 Q +1

3. What is the equilibrium price and quantity? (2 points)

Q= 9.6

P=4.2

4. The upcoming summer is predicted to be hotter than normal summer. Thus the soda company expects that an individual will consume one more can of soda than what he/she demanded this year at any price level. Also a new technology which is supposed to be implemented next year will decrease the production cost by 1 dollar per unit. What is the equilibrium price and quantity in this new environment? (4 points)

The new (inverse) demand function will be: Q=2(9-P)+1

The new supply function will be: P=1/3Q

Hence the equilibrium price and quantity will be: P=3.8, Q=11.4

Problem 3 (12 points)

The market for corn in a small country is described by the following supply and demand equations, where quantities are measure in pounds and prices are also per pound:

$$P = 60 + 2Q_s$$

$$P = 210 - 3Q_d$$

1. Calculate the equilibrium price and quantity. (2 points)

   P = 120; Q = 30

2. Calculate the consumer surplus, and producer surplus. (2 points)
   PS = 900; CS = 1350

The previous question considered an economy in autarky that do not trade with foreign markets. Let's assume now that domestic consumers can buy corn in the competitive international market in a fixed international price.

3. Suppose that the international price is **P* = 100**. What is the quantity produced domestically, the quantity consumed by local consumers and the quantity imported? (2 points)
   Qs=20; Qd=36.6; M=16.6

4. Draw a diagram showing producer surplus (PS), consumer surplus (CS) and calculate them. (2 points)
   CS= 2013; PS=400

Now suppose that the government introduces a tariff of 10 per pound of foreign corn imported.

5. What is the new effective price for imports (2 points)
   P* = 110

6. Calculate the new quantities supplied, demanded and imported. (2 points)
   Qs=25; Qd=33.3; M=8.3

Answer Key

1. C
2. D
3. A
4. D
5. C
6. C
7. C
8. D
9. B
10. D
11. D
12. A
13. C
14. B
15. A
16. B
17. B
18. A
19. A
20. A
21. B
22. A
23. D
24. C
25. D
26. B
27. B
28. B
29. D
30. C