ECON 201: Introduction to Macroeconomics

Professor Robert Gordon

Midterm Exam 1:

October 28, 2019

NAME _____

Circle the **TA session** you attend:

Mario - 3PM   Jason - 3PM   Gaston - 3PM

Mario - 4PM   Jason - 4PM   Gaston - 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. C

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

alculators 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.

PART I - Multiple Choice Questions

1.   The problem of scarcity is confronted by:

    A) industrialized societies only
    B) preindustrial societies only
   C) societies governed by communist philosophies only
    D) all societies

2.   While buying refreshments for an upcoming party, you notice that a six-pack of Americana Beer costs $2 and a six-pack of Bavarian Beer costs $4. You buy the six-pack of Bavarian Beer, although you wonder if maybe two six-packs of Americana Beer would have been a better choice. The opportunity cost of the Bavarian Beer is:

    A) $2.
    B) a six-pack of Americana Beer.
    C) two six-packs of Americana Beer.
    D) $4 and the six-pack of Americana Beer.

3.   Professor Macro wants to use a numerical graph to show the percentage of government spending accounted for by its various components.   Which graph is MOST suitable for this purpose?

A) a bar graph
B) a pie chart
C) a time-series graph
D) a scatter diagram

4.   The U.S. trade deficit, the amount by which imports exceed exports, was _____ in the 1970s and _____ in the 2000s :

A) low; low
B) high; high.
C) low; high.
D) high; low.

5.   Suppose the economy produced 8 guns and 12 pounds of butter per period. Given that, which statement is TRUE?
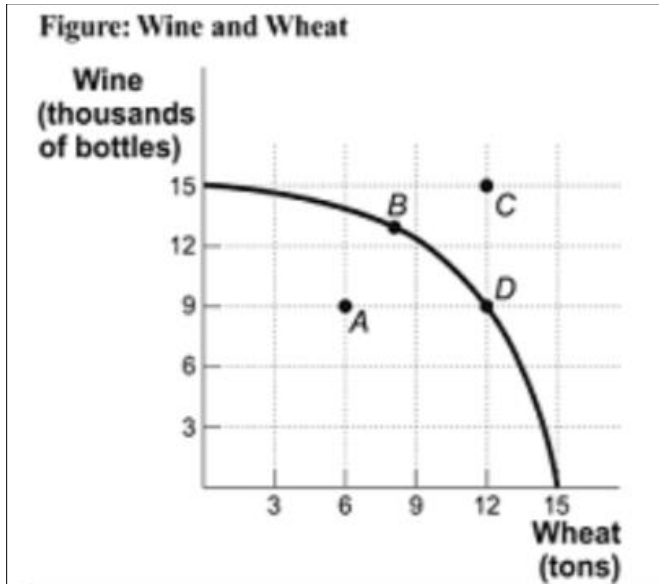
Figure: Guns and Butter
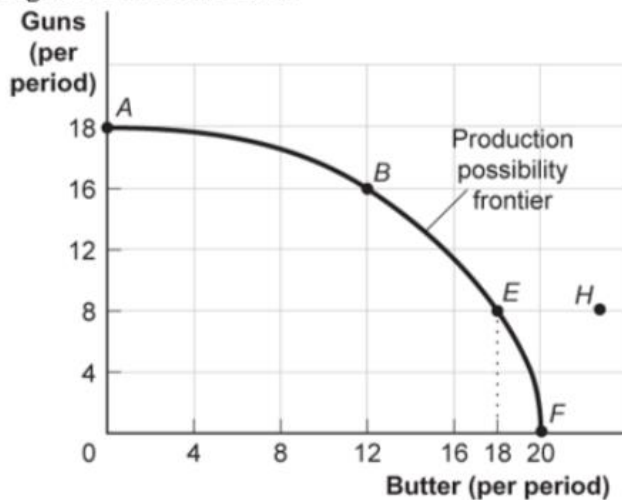
A) This is a possible choice, but it is inefficient
B) This combination invalidates the notion of increasing opportunity cost
C) The economy is still efficient but does not buy as much as it could
D) Something must be done to reduce the amount of employment

6.   One of the controversies surrounding the United States' energy markets is the trade-off between energy production and clean air. Assuming clean air has value, the United States will be on its production possibility frontier if and only if:

A) resources used to produce clean air and energy are not being fully used

B) pollution is eliminated
C) the price of energy is relatively low
D) resources used to produce clean air and energy are being fully used

7.   If this economy is producing at point *A* and wants to produce at point *B*, it must:

Figure: Wine and Wheat

Wine
(thousands
of bottles)

15 —
B
C
12
D
9
A
6
3

        3   6   9   12   15
                        Wheat
                        (tons)

A) trade with another country.
B) increase its resources.
C) decrease production.
D) use its existing resources efficiently.

8.   If the opportunity cost of manufacturing machinery is higher in the United States than in Britain and the opportunity cost of manufacturing sweaters is lower in the United States than in Britain, then the United States will:

A) export both sweaters and machinery to Britain.
B) import both sweaters and machinery from Britain.
C) export sweaters to Britain and import machinery from Britain.
D) import sweaters from Britain and export machinery to Britain.

9.   In a market for private medical insurance, setting the same insurance price for all of the insured will lead to a "death spiral" because of :

A) price ceiling
B) price floor.
C) adverse selection .
D) Obamacare mandate.

10. Joe's demand for spring water can be represented as $P = 10 - Q$ (where P is measured in $/gallon and Q is measured in gallons). He recently discovered a spring where water can be obtained free of charge. His consumer surplus from this water is:

A) $0.
B) $50.
C) $100.
D) unknown based upon the information provided.

11. A drought that reduces the supply of wheat in Russia will cause:

A) a rightward shift in the U.S. demand curve for wheat
B) a rightward shift in the U.S. supply curve for wheat
C) a leftward shift in the U.S. supply curve of soybeans
D) A) and C)
E) A), B) and C)

12. Which factor would cause an INCREASE in the supply of a good?

A) an increase in input prices
B) a decrease in the number of sellers in the market
C) suppliers' expectations of higher prices in the future
D) an advancement in the technology for producing the good.

13. The market is in equilibrium at point C. A reputable scientist asserts in a major scientific publication that drinking orange juice will increase your life span. What will be the MOST likely new equilibrium point in the orange juice market?
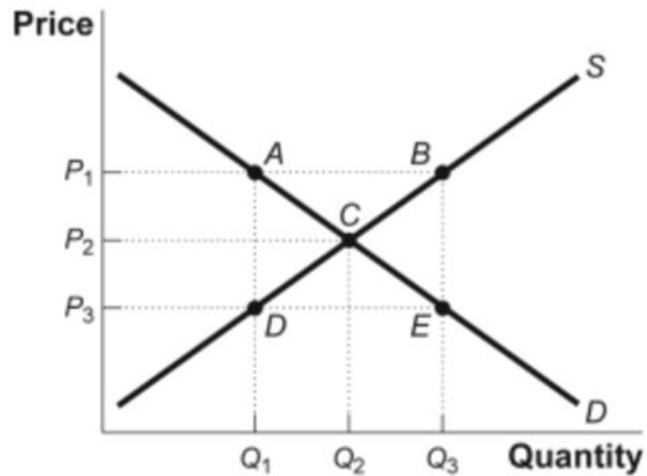
A) A
B) B
C) D
D) E

14. 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.

15. An effective price floor would be at price _____ and a _____ would result from the difference between points _____.

Figure: Price Controls
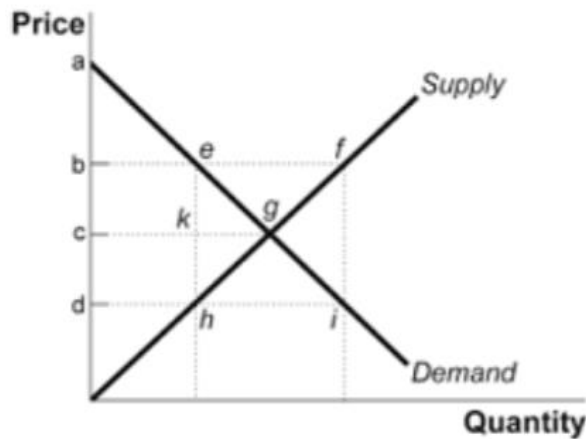
   A) c; surplus; f and e
   B) b; surplus; f and e
   C) d; shortage; i and h
   D) b; shortage; f and e

16. The introduction of trade between two countries A and B, compared to a closed economy with no trade, has the effect of rotating the PPF of country A:

   A) outward from the axis of the good in which country A specializes
   B) outward from the axis of the good in which country B specializes
   C) inward from the axis of the good in which country A specializes
   D) inward from the axis of the good in which country B specializes

17. If a nation imports a good when the economy is opened to trade, the domestic price of the good will _____ and domestic consumption will _____.

   A) rise; rise
   B) rise; fall
   C) fall; rise
   D) fall; fall

18.   The "hockey stick diagram" shows _____ gains for the rich than the poor in 1980-2014
        and _____ gains for the rich than the poor in 1946-1980

        A) higher; lower.
        B) lower; higher.
        C) higher; higher
        D) lower; lower.

19.   Assume that *PA* is the autarky price, *PW* is the world price, and *D* and *S* represent domes
            tic demand and supply, respectively. The loss of producer surplus when the mar-
ket moves   from autarky to free trade equals the area:

Figure: The Market for iPhones
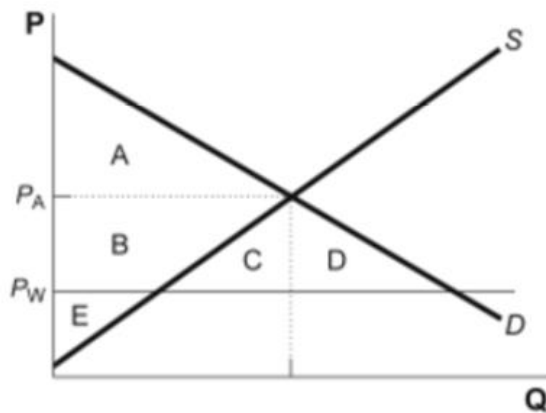
        A) B
        B) B + C + D +E
        C) B + C + D
        D) E

20.   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

21.   A negative relationship between quantity demanded and price is called the law of:

        A) demand.
        B) increasing returns.
   C) market clearing.
        D) supply.

22.   A temporary price of $4 in this market would result in a _____ of _____ bushels per pe-
riod.

Price (per bushel) vs. Quantity of wheat (thousands of bushels per period)
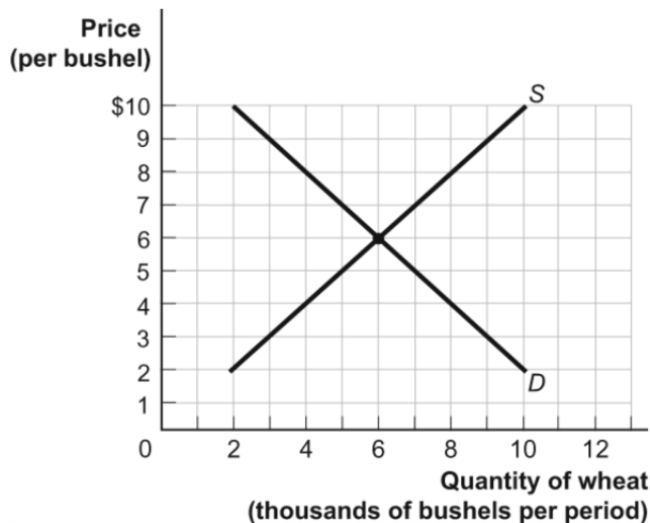
A) surplus; 4,000
B) shortage; 2,000
C) shortage; 4,000
D) surplus; 2,000

23.   Quantity controls set below the equilibrium quantity do NOT cause:

A) incentives for illegal activities
B) missed opportunities in the form of mutually beneficial transactions that don't occur
C) the supply price of the quantity transacted to exceed the demand price of the quantity
transacted
D) quota rents

24.   President Trump's tariffs on imports of South Korean washing machines led to:

A) no change in the prices of washers or dryers
B) higher prices of washers, no change in the price of dryers
C) higher prices of washers, higher prices of dryers.
D) no change in the price of washers; higher prices of dryers.

25.   The minimum wage, which sets a lower limit on the wages that workers can earn, is
often above the equilibrium price. The minimum wage is an example of a(n):

A) price floor
B) price ceiling
C) quota
D) equilibrium price

26.   The domestic price is P_A and the world price is P_W. The government decides to impose a tariff on each imported digital camera, and the new price is P_t. Identify the area corresponding to the (domestic) deadweight loss that results from the tariff

Figure: The Market for Digital Cameras with Tariff
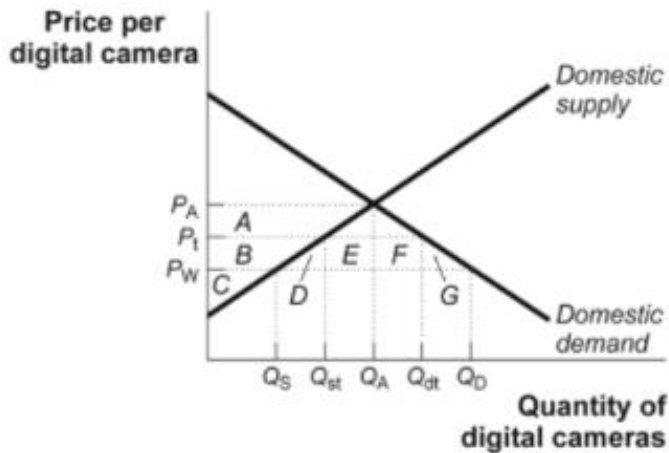
A) A + B + D + E
B) F + G
C) D + E + F + G
D) D + G

27.   When the minimum wage is increased, which of the following will create the most income gains for those paid the minimum wage with the lowest losses for those made unemployed by the higher minimum wage?:

A) steep supply curve.
B) flat supply curve.
C) flat demand curve
D) steep demand curve

28.   A price floor equal to _____ would produce excess supply in this market.

Table: Quantity Supplied and Quantity Demanded

Price	Quantity Demanded	Quantity Supplied
$0	100	25
5	90	40
10	80	55
15	70	70
20	60	85

A) $5

B) $10
C) $15
D) $20

29. The graph below shows supply and demand curves for apartment units in a large city. If the city government passes a law that establishes $350 per month as the legal maximum rent, the loss in social welfare equals:
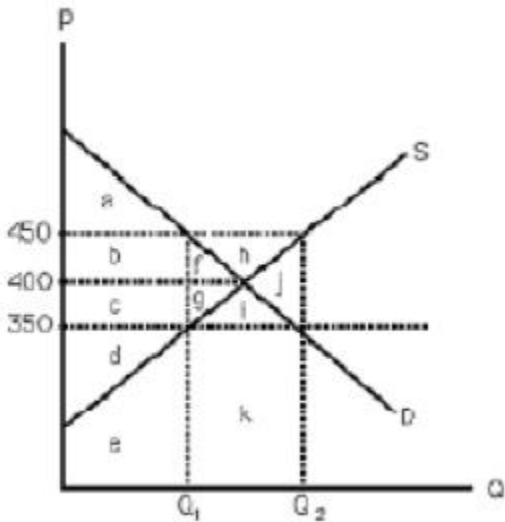
A) b + c
B) f.
C) a
D) f + g

30. The average ratio of CEO pay to average worker pay was _____ times higher in 1970 and _____ times higher more recently.

A) 30; 30
B) 30; 300
C) 300; 300.
D) 300; 30

Answers

1. A
2. C
3. B
4. C
5. A
6. D
7. D

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

Part 2: Solve the following problems in the provided space. *Show all your work clearly.*

Question 1 (13 points)

Suppose that in a market, the demand for good X is given by the equation: P=40-Qd, while the supply for good X is given by the equation P=10+2Qs, where Qd indicates quantity demanded and Qs indicates quantity supplied.

1. (1pts) Solve for the equilibrium price and quantity in the market for good X

(q=10, p=30)

2. (3pts) The government imposes a sales tax of $9 per unit of good X. The new quantity of good X exchanged in the market is _____. The new price that the consumers pay is _____ and the new price that the producers receive is _____.

(q=7,33,24)

3. (3pts) Under this sales tax, consumer surplus is equal to _____, producer surplus is equal to _____, and the deadweight loss caused by the tax is equal to _____.

(49/2, 49, 27/2) (24.5, 49, 13.5) - Some idea on DWL is 1 point

4. (3pts) Suppose that instead of a sales tax of $9 the government imposes a subsidy of $3 per unit paid to the producer. The quantity that will be exchanged in the market now is _____. The price paid by the consumer is _____, and the price received by the producer is _____.

(11, 29, 32) 1 points if calculation are right

5. (3pts) Under this new subsidy, consumer surplus is equal to _____, producer surplus is equal to _____, and the deadweight loss created by this subsidy is equal to_____.

(121/2, 121, 3/2) 60.6 121 1.5. : 2 points if calculation are right

Question 2 (12 points)

Consider two people, Andre and Abe, who live on neighboring islands. Assume they each can work at most 8 hours in one day.
Andre can make 4 great songs per hour and 6 oz of meat per hour
Abe can make 0.5 great songs per hour and 4 oz of meat per hour

a) Suppose first that Andre and Abe cannot trade with each other. Furthermore, because of their love of variety each of them spends half their time in each activity. How many great songs and meat are produced by each of them and in total? (2 points)

Andre makes _____ songs and _____ oz of meat. Abe makes _____ songs and _____oz of meat.

Answer

Andre makes 4*4 = 16 songs and 6*4 = 24 oz of meat. Abe makes 0.5*4 = 2 songs and 4*4 = 16 oz of meat. In total they make 18 songs and 40 oz of meat.

b) The opportunity cost of 1 great song for Andre is _____ ounces of meat.
   The opportunity cost of 1 great song for Abe is _____ ounces of meat (2 points)

Answer
For Andre 1 song costs 1.5 oz of meat, for Abe 1 song costs 8 oz of meat.

c) If Andre and Abe can trade songs for meat, who should specialize in writing songs and who should specialize in making meat? (2 points)
   Andre should specialize in _____ while Abe should specialize in _____

Answer
Because for Andre making songs is relatively cheaper, Andre makes songs and buys meat and Abe makes meat and buys songs.

d) Would they trade for a price of 10 oz meat for song? (1 points)
   Andre will _____ (accept/refuse) to sell songs and this price and Abe will ____ (accept/refuse) to buy. Trade _____ (will/will not) occur at this price.

e) Would they trade for a price of 6 oz meat for song? (accept/refuse) (1 points)
   Andre will _____ (accept/refuse) to sell songs and this price and Abe will ___ (accept/refuse) to buy. Trade _____ (will/will not) occur at this price.

Answer
The price range is 1.5 oz meat less than or equal to 1 song less than or equal to 8 oz meat.
If price is 10 oz meat for song, Andre will be happy to sell songs and this price, but Abe will refuse as it is more expensive that without the trade.

f) Please draw each of their PPFs (with songs on the y-axis and meat on the x-axis) and indicate the allocation they each have chosen when they could not trade (part a) and with trade (ie. use the price at which they trade in part d or e). Do they benefit from trade? (4 points)

Question 3 (5 points)

P	50 $	40 $	30 $	25 $	20 $	10 $
QD	0	10	20	25	30	40

QS	20	20	20	20	20	20

a) What is the equilibrium market price and quantity in this market? (1 points)

Ans: At equilibrium, Qd = Qs, so you can see from the table that $Q^* = 20$; $P^* = 30$.

b) At the equilibrium price and quantity, compute the total amount of consumer and producer
surplus. (2 points)

Ans
CS = (50 * 30) * 20 * 0.5 = 200
PS = 30 * 20 = 600

c) Suppose there were a price floor of $40. What would be the surplus (+) or shortage (-)?
(be sure to indicate the amount and whether it is a surplus or a shortage). How much
would actually be sold in this market? (2 points)

Ans
Since the price is now at 40, we can use the table to see that quantity demanded is 10.
Therefore, **there is a surplus (+) of 10**, since the quantity supplied is 20 at all prices.
Since consumers cannot be forced to buy the surplus of goods, **the quantity sold in the
market is 10**.