

Economics 101
Professor H. Quirnbach
Final Exam

Print Name: _____
Student ID: _____
TA Name: _____
Group Time: _____

SCORE _____

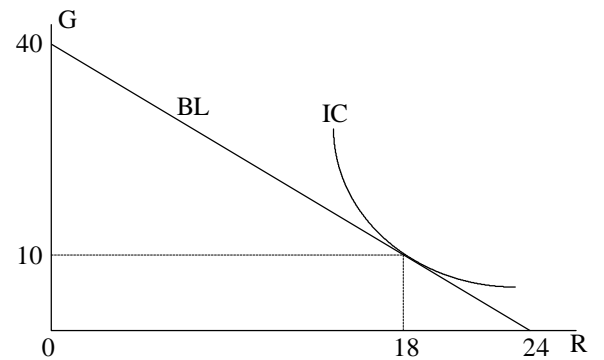
INSTRUCTIONS:

1. Fill in all requested information above and on the answer sheet.
2. There are 40 multiple choice questions and one problem. Enter the ONE best answer for each multiple choice question on the answer sheet. There is no penalty for guessing. On the answer sheet, completely darken the letter representing your choice for each question. Do the problem on the test paper itself.

1. A regulated monopolist earns positive economic profits ONLY under
 - a. "first-best" regulation.
 - b. "second-best" regulation.
 - c. "capture" regulation.
 - d. A regulated monopolist always earns positive economic profits.
 - e. A regulated monopolist never earns positive economic profits.

2. Suppose a society produces only guns and butter. The graph of the maximum amount of butter that the society can produce for each given level of gun production is called the society's
 - a. budget line.
 - b. production possibility frontier.
 - c. labor-leisure trade-off.
 - d. demand curve for butter.
 - e. social indifference curve.

3. The diagram at the right represents the utility maximization problem for a particular consumer who is choosing amounts of goods ("G") and leisure time ("R") to consume each day. If all time not spent at leisure is spent working, then the hours of labor the consumer will supply each day is



- a. 24
 - b. 18
 - c. 10
 - d. 6
 - e. not determined from the diagram without further information on the wage rate.
-
4. Suppose an economist is called to testify before Congress on how a proposed ban on artificial sweeteners is likely to affect soft drink prices. The economist is likely to be
 - a. a microeconomist.
 - b. a macroeconomist.
 - c. a normative economist.
 - d. a positive economist.
 - e. both a. and d.

 5. If the market for a particular product is NOT in equilibrium, any of the following is possible EXCEPT
 - a. demand exceeds supply.
 - b. demand equals supply.
 - c. supply exceeds demand.
 - d. there are economic forces tending to push the price up.
 - e. there are economic forces tending to push the price down.

6. Rent control is
- a price floor policy.
 - a price ceiling policy.
 - a bargain basement policy.
 - a window of opportunity cost.
 - the key to the future.
7. Suppose that the wages of farm workers fall at the same time that strawberries experience a sudden burst of popularity. We conclude that
- both the price of strawberries and the quantity will rise.
 - both the price and the quantity will fall.
 - the quantity will rise but the price will fall.
 - the quantity will rise but more information is needed to determine the effect on price.
 - there is too little information to determine either the price or quantity effect.
8. Economics
- leaves questions of value judgments to philosophers.
 - studies only how goods are produced.
 - assumes that who gets which goods and services is determined by the government.
 - studies what society produces with its resources.
 - assumes that there is only one purpose for which a given resource can be used.
9. If there is free entry into a particular market,
- firms will exit if profits are zero.
 - equilibrium profits will be zero.
 - firms will enter if there are positive profits.
 - both b. and c. are true.
 - all of the above are true.
10. If the own price elasticity of demand is negative, we conclude that the good in question is
- an inferior good.
 - a complementary good.
 - a Giffen good.
 - a normal good.
 - None of the above is necessarily true.

11. Suppose that milk producers decided to dump part of the milk they had already produced rather than send it to market. We conclude that
- the farmers clearly acted irrationally.
 - the farmers acted rationally if the demand for milk is elastic.
 - the farmers acted rationally if the demand for milk is inelastic.
 - the farmers acted rationally if the demand for milk is downward sloping.
 - the farmers acted rationally if milk is a normal good.
12. The income elasticity of the demand for shoes is 0.6. Shoes are
- a normal and necessary good.
 - a normal and luxury good.
 - an inferior and necessary good.
 - an inferior but luxury good.
 - a normal but inferior good.
13. If there are three bundles of goods, A, B, and C, which of the following utility rankings is NOT possible?
- A is indifferent to B, B is preferred to C, and A is preferred to C.
 - C is preferred to A, A is preferred to B, and C is preferred to B.
 - B is preferred to A, A is indifferent to C, and B is indifferent to C.
 - A is indifferent to B, B is indifferent to C, and A is indifferent to C.
 - A is preferred to B, C is preferred to A, and C is preferred to B.
14. Which of the following would NOT affect the location of the demand curve for ice cream?
- A change in dietary preferences away from sweets.
 - A change in the weekly spending allowance of eight year old boys.
 - A change in the price of apple pie.
 - A change in the price of chocolate sauce.
 - A change in the price of ice cream.
15. Which of the following WOULD affect the location of the supply curve for ice cream?
- A change in the price of ice cream.
 - A change in the price of ice cream sundae toppings.
 - A change in the cost of raising dairy cows.
 - A change in dietary preferences away from sweets.
 - Both a. and c.

16. The graph of the consumption bundles a consumer can afford to buy at given prices and with a given income is called the consumer's

- a. isocost line.
- b. isoquant.
- c. indifference curve.
- d. budget line.
- e. demand curve.

17. The graph of all consumption bundles that give a consumer a given utility level

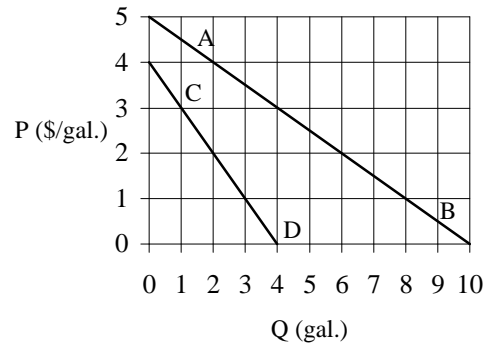
- a. has a slope given by (minus) the marginal rate of substitution.
- b. has a slope equal to (minus) the ratio of consumption good prices at the bundle the consumer chooses to buy.
- c. has a slope equal to (minus) the ratio of the marginal utilities.
- d. has both a. and c.
- e. has all of the above.

18. Initially, a consumer has income of \$60 and faces $p_x = \$6/\text{unit}$ and $p_y = \$10/\text{unit}$. If the consumer's income rises to \$70 while p_x rises to \$7/unit and p_y remains the same, the consumer's budget line

- a. makes a parallel shift outward.
- b. rotates inward about the y-intercept.
- c. rotates outward about the x-intercept.
- d. rotates inward about the x-intercept.
- e. moves in an unpredictable fashion.

19. In the figure at the right, line AB depicts one consumer's demand curve for spring water, while line CD depicts a second consumer's demand curve. If these two are the only consumers in the market for spring water, then, at a price of \$3/gal., the market demand for spring water is

- a. 1 gallon.
- b. 3 gallons.
- c. 4 gallons.
- d. 5 gallons.
- e. 8 gallons.



20. In the spring water market of the previous question, the (arc) price elasticity of the market demand curve between $P = \$3$ and $P = \$1$ is

- a. $-2/3 = -0.6666\dots$
- b. $-3/4 = -0.75$
- c. -1
- d. $-4/3 = -1.3333\dots$
- e. $-3/2 = -1.5$

21. A firm produces water pollution as a by-product with each unit of its output. If the government begins to tax the firm for each unit of pollutant the firm dumps into a lake, the tax will
- force the firm to increase output in order to be able to pay the tax.
 - move the firm's marginal private cost closer to the marginal social cost.
 - move the marginal social cost closer to the marginal private cost.
 - not affect the firm's choice of output level.
 - end the pollution entirely.
22. At a particular output level, a monopolist observes $P = \$15$, $MC = \$10$, $MR = \$8$, and $AC = \$5$. The monopolist should
- increase output tremendously.
 - increase output somewhat.
 - keep output the same.
 - decrease output somewhat.
 - shut down.
23. David's own price elasticity of demand for apples is -0.4 . At a price of 15 cents each, David buys 100 apples. If the price of apples falls by 3 cents per apple, then David buys roughly
- six more apples.
 - eight more apples.
 - twelve more apples.
 - eighteen more apples.
 - twenty more apples.
24. A competitive firm can never earn positive (economic) profits in the short run
- if its technology has decreasing returns to scale.
 - if its technology has increasing returns to scale.
 - if there are entry barriers.
 - if there are sunk costs.
 - In the short run, a competitive firm always earns positive profits.
25. Suppose that, in the market for hogs, a period of excess supply is followed by a period of excess demand. If the demand and supply curves for hogs have not changed, we can conclude that
- the market price of hogs has fallen.
 - the equilibrium price of hogs has fallen.
 - the market price of hogs has risen.
 - the equilibrium price of hogs has risen.
 - the market price of hogs has stayed the same.

26. Imperial Soap Unlimited, Inc., is using labor and capital where $MPL = 5$ and $MPK = 10$. The wage rate is \$10/hour, as is the rental rate of capital. The company must keep its present output. For a huge consulting fee--plus a share of any cost savings--you would advise ISU to

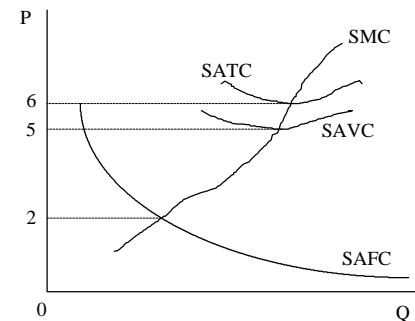
- use less labor and more capital.
- use less capital and more labor.
- use less labor and the same amount of capital.
- use less capital and the same amount of labor.
- keep its present input levels, but pay your fee anyway.

27. Suppose two duopolists find a way to collude and raise the price of their product.

- This change would be a Pareto improvement for society, since both firms' profits would rise.
- This change would be a Pareto improvement for society only if the product in question were a public good.
- This change would be a Pareto improvement for society only if the product in question generated no negative externalities.
- Absent externalities of any type, this change would not be a Pareto improvement for society as a whole.
- None of the above is true.

28. A competitive firm has the short run cost curves graphed at the right. This firm should

- shutdown at any price $< \$6$.
- shutdown at any price $< \$5$.
- shutdown only if price $< \$2$.
- always produce at any positive price so as to make some contribution to sunk costs.
- do none of the above.



29. In the preceding problem, if all firms have identical cost curves, if there is free entry in the (competitive) industry, and if long-run average costs are always identical to the short-run average total costs shown, then the long-run equilibrium price

- will be \$8.
- will be \$6.
- will be \$5.
- will be \$2.
- will depend on market demand as well as supply and thus cannot be determined without further information.

30. Which of the following is primarily a statement of positive economics?

- Taxing greater sums from the rich and transferring them to the poor would allow the poor to get a more equal amount of health care.
- An 8% inflation rate would be more unfair than an 8% unemployment rate.
- A tax on Social Security benefits would make the income distribution more just.
- Positive economics is less valuable than normative economics.
- Normative economics is less valuable than positive economics.

31. A factor which would make collusion among oligopolists more likely to succeed is
- lumpy and infrequent orders.
 - a large number of firms.
 - heterogeneous costs.
 - geographic division of the market.
 - All of the above make collusion more likely.
32. In a monopolistically competitive market,
- all firms produce the exact same product.
 - there is too much variety of products.
 - there is too little variety of products.
 - profits are zero in equilibrium.
 - none of the above is necessarily true.
33. Let bundle A be (4,5), where the amount of good x is listed first and the amount of good y is listed second. Let bundle B be (2,7).
- Bundle A is never preferred to bundle B.
 - Bundle B is never preferred to bundle A.
 - Bundle A is preferred to bundle B if A lies on the same indifference curve as the bundle (3,8).
 - Bundle B is preferred to bundle A if B lies on the same indifference curve as the bundle (5,6).
 - Both c. and d. are true.
34. Suppose a monopoly's output is $Q=12$ and that at that output $AC(Q) = \$4$. If the price of the output is \$9, the monopoly's profit will be
- \$48.
 - \$108.
 - \$72.
 - \$60.
 - undetermined unless we know the marginal revenue.
35. In the preceding problem, the firm's total cost will be
- \$48.
 - \$108.
 - \$72.
 - undetermined unless we know the sunk cost.
 - undetermined unless we know the marginal cost.

36. A public good
- is any good that is produced by a government agency.
 - generates positive externalities.
 - is under-supplied by a private competitive market acting alone.
 - All of the above are true.
 - Both b. and c. are true.
37. When the price of x is \$12 and the price of y is \$8, Fred buys five units of good x and seven units of y. If, at that point, Fred's marginal utility of x is 3, then his marginal utility of y is
- 2.
 - $10/3 = 3.3333\dots$
 - $21/5 = 4.2$
 - $36/8 = 4.5$.
 - 9.
38. If the wage rate rises, a competitive firm's demand for labor
- decreases because the firm substitutes more capital for labor.
 - decreases because the firm reduces output.
 - decreases because the supply of labor decreases.
 - both a. and b.
 - all of the above.
39. The rule which specifies how much output can be produced from any combination of labor and capital is the
- total cost function.
 - utility function.
 - isocost line.
 - variable cost function.
 - production function.
40. If in a competitive market there are both positive externalities on the consumer side and negative externalities on the production side, then
- $MSB > P = MPC < MSC$.
 - $MSB = P = MPC = MSC$.
 - $MSB = P = MPC < MSC$.
 - $MSB > P = MPC = MSC$.
 - $MSB = P > MPC = MSC$.

Problem: (40 points)

Name _____

a.) Given the two indifference curves graphed below for goods x and y, solve the following consumer utility maximization problems.

(i.) If $p_x = 6$ and $p_y = 4$ are the prices of x and y, respectively, and $I = 36$ is income, graph the resulting budget line and label it "BL I." The consumer then chooses quantities

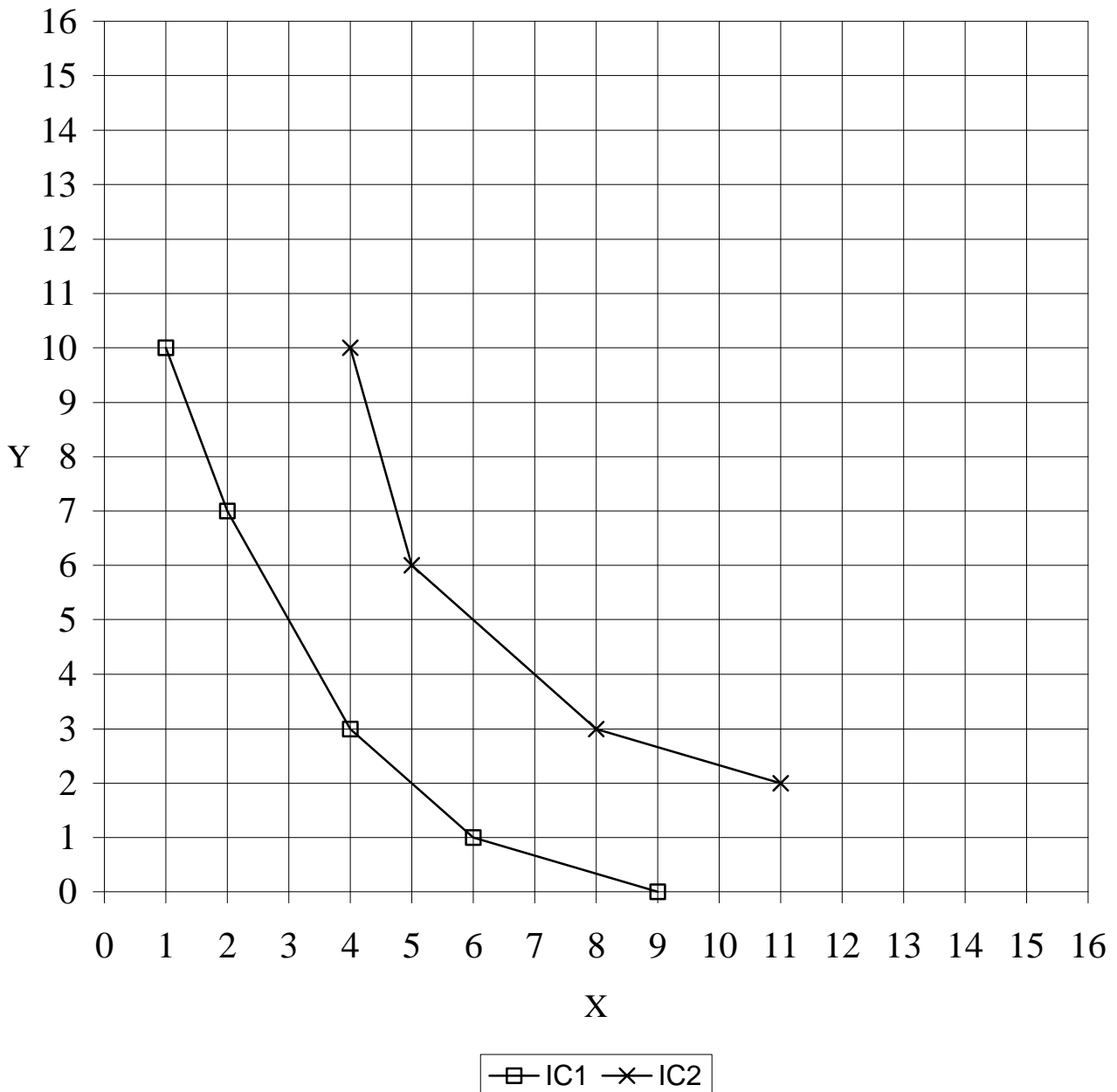
x = _____

y = _____

(ii.) If the consumer's income rises to $I = 54$, but prices remain the same, graph the new budget line and label it "BL II." The new bundle chosen is

x = _____

y = _____



Name _____

Comparing these amounts with those chosen in (i.), we can conclude that (circle all correct responses):

good x is: normal, inferior, necessary, luxury

good y is: normal, inferior, necessary, luxury

(iii.) If $I = 36$ and $p_y = 4$, but now $p_x = 3$, draw the resulting budget line and label it "BL III." The consumer now chooses:

x = _____

y = _____

The (arc) own price elasticity of demand for x is (compare (i.) and (iii.):

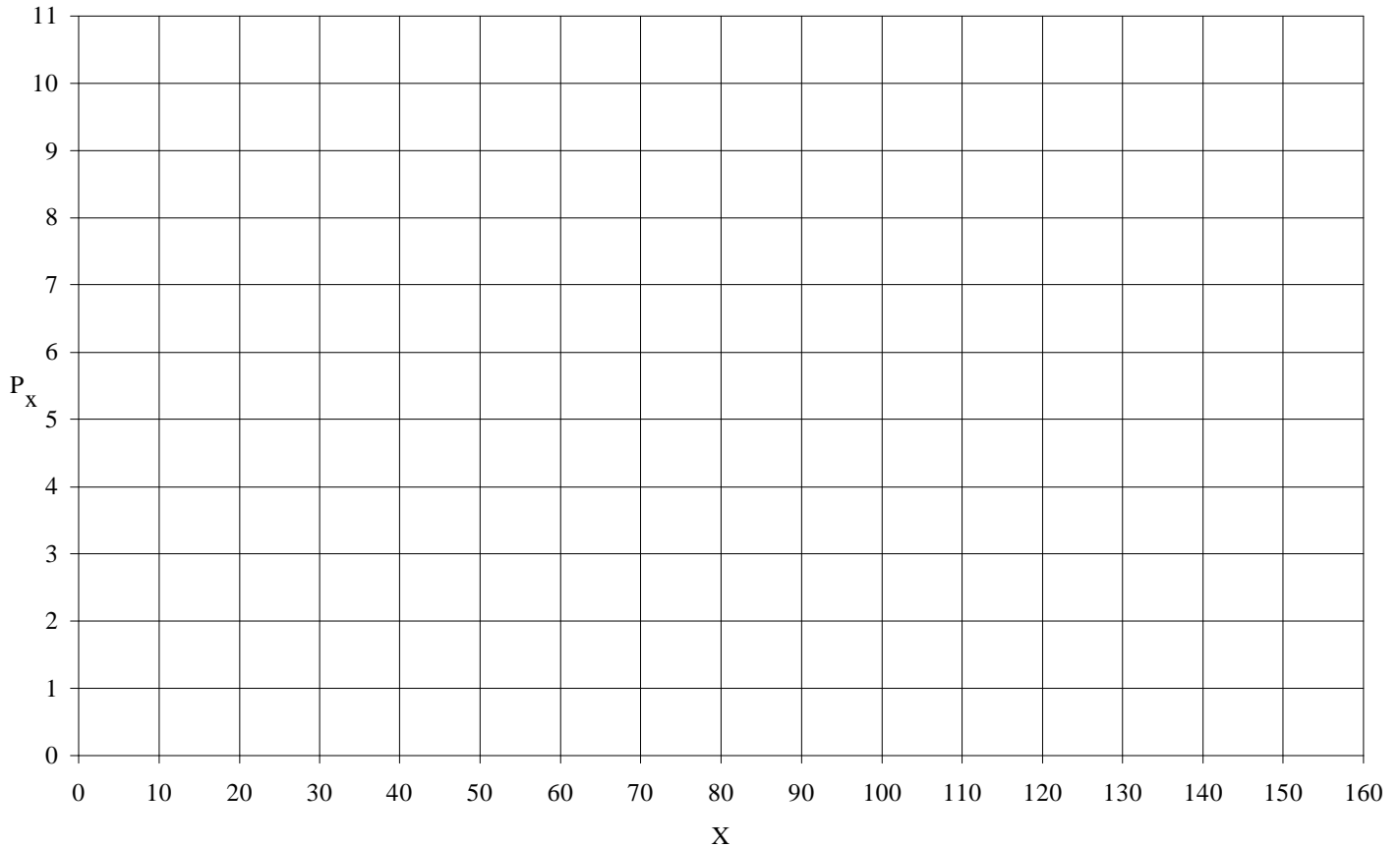
The (arc) cross price elasticity of demand for y with respect to p_x is:

b.) (i.) Suppose now that there are ten consumers in the economy, and that all 10 of them have the preferences represented in part a.). Each of the ten consumers has $I = 36$, and all face $p_y = 4$ throughout. Then

when $p_x = 6$, the market demand for x is: _____

when $p_x = 3$, the market demand for x is: _____

Assume that the market demand curve for x is a straight line. Draw the market demand curve for x on the axes below. Also draw the marginal revenue curve.



Name _____

(ii.) Suppose the industry producing x has constant returns to scale; specifically, assume that $MC = AC = \$3$ per unit. Graph this (FLAT!!) marginal cost curve on the same axes as the demand curve above. If the industry is competitive, find its

price = _____

output = _____

consumer surplus = _____

profit = _____

welfare = _____

If, instead, a monopolist held a patent on the technology for x , find the monopoly

price = _____

output = _____

consumer surplus = _____

profit = _____

welfare = _____

Compute the deadweight loss due to monopoly: _____