

Midterm 2
60 minutes
Econ 1101: Principles of Microeconomics
November 13, 2017

Exam Form A

Name _____ Student ID number _____

Signature _____

Teaching Assistant _____ Section _____

The answer form (the bubble sheet) **and** this question form will both be collected at the end of the exam. Fill in the information above and then on the answer form, please write the following information

- **NAME**
- **X.500 username** (= email without “@umn.edu”)
- **Identification Number,**
- **Section (recitation number)**
- **Exam Form** (This is given above and can be A, B, D, C, or E.
Fill this in under “Form/Version.”)

Fill in the corresponding bubbles. Sign your name on back of answer form.

You will be awarded 1.5 bonus points for filling the correct name, x500, ID, and form number on the answer form.

There are 32 questions. All questions are multiple choice. Each question has a single answer. Select the **best** answer for each question and fill in the corresponding bubble on the answer sheet.

Use a **Number 2** pencil to fill in your answer.

You are not permitted to use calculators or to open books or notes.

1. For question 1, please fill in (a) on your bubble sheet, as this is exam form A. (We are using this question to verify the exam form.)

a) Form A

2. Under what assumptions will the long-run supply curve for the widget industry be perfectly elastic (i.e. perfectly flat)?

(i) Marginal cost is less than average total cost at every quantity level.

(ii) The same technology is available to all firms.

(iii) There are no barriers to entry in the industry.

(iv) The supply curve has unit elasticity

(v) Input prices do not change as the industry expands

a) (i) and (ii)

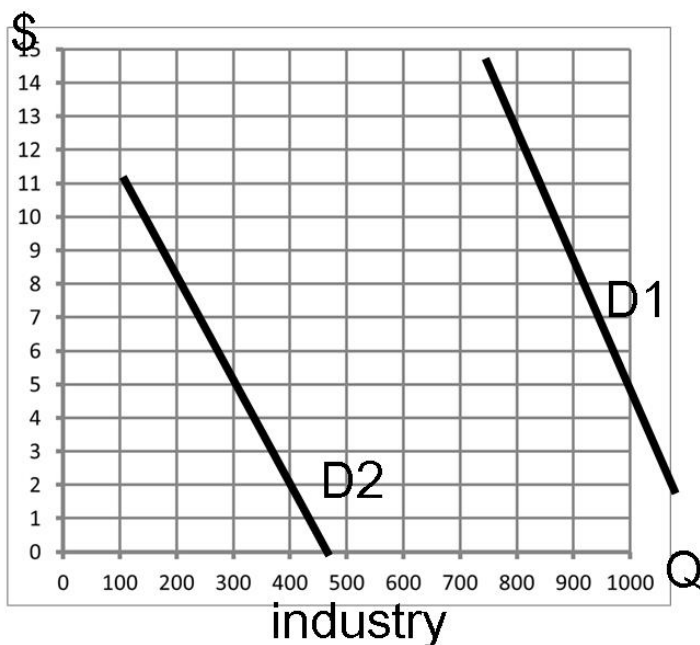
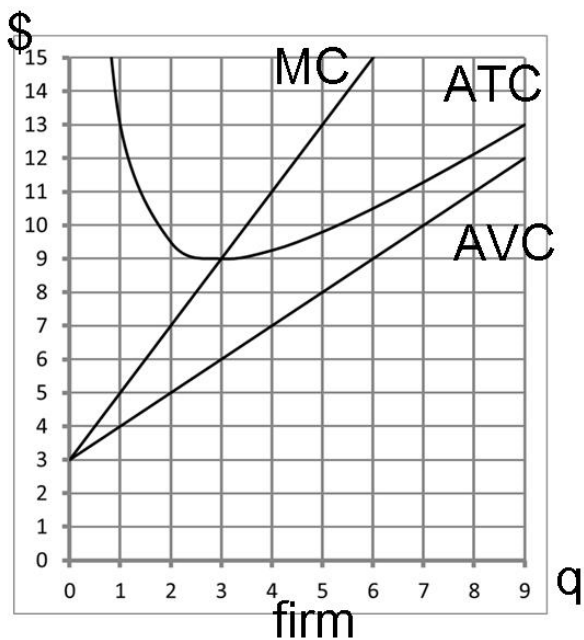
b) (iii) and (iv)

c) (i), (iii), and (iv)

d) (ii), (iii), and (v)

e) (i), (ii), (iv), and (v)

Suppose the required assumptions from the previous question hold for the widget industry. Each widget firm has the cost structure illustrated in the left graph below. The right graph illustrates two different possible demand curves, D1 and D2.



3. Fixed cost equals

a) 9

b) 4

c) 8

d) 12

e) 16

For the next four questions, assume demand is given by **D1**, and the industry is in **long-run** equilibrium. (Note D1 is the demand curve on the **right**.)

4. The price P^{LR} is
 - a) 8
 - b) 6
 - c) 7
 - d) 4
 - e) 9

5. Long-run output per firm q^{LR} equals
 - a) 2
 - b) 3
 - c) 4
 - d) 5
 - e) 6

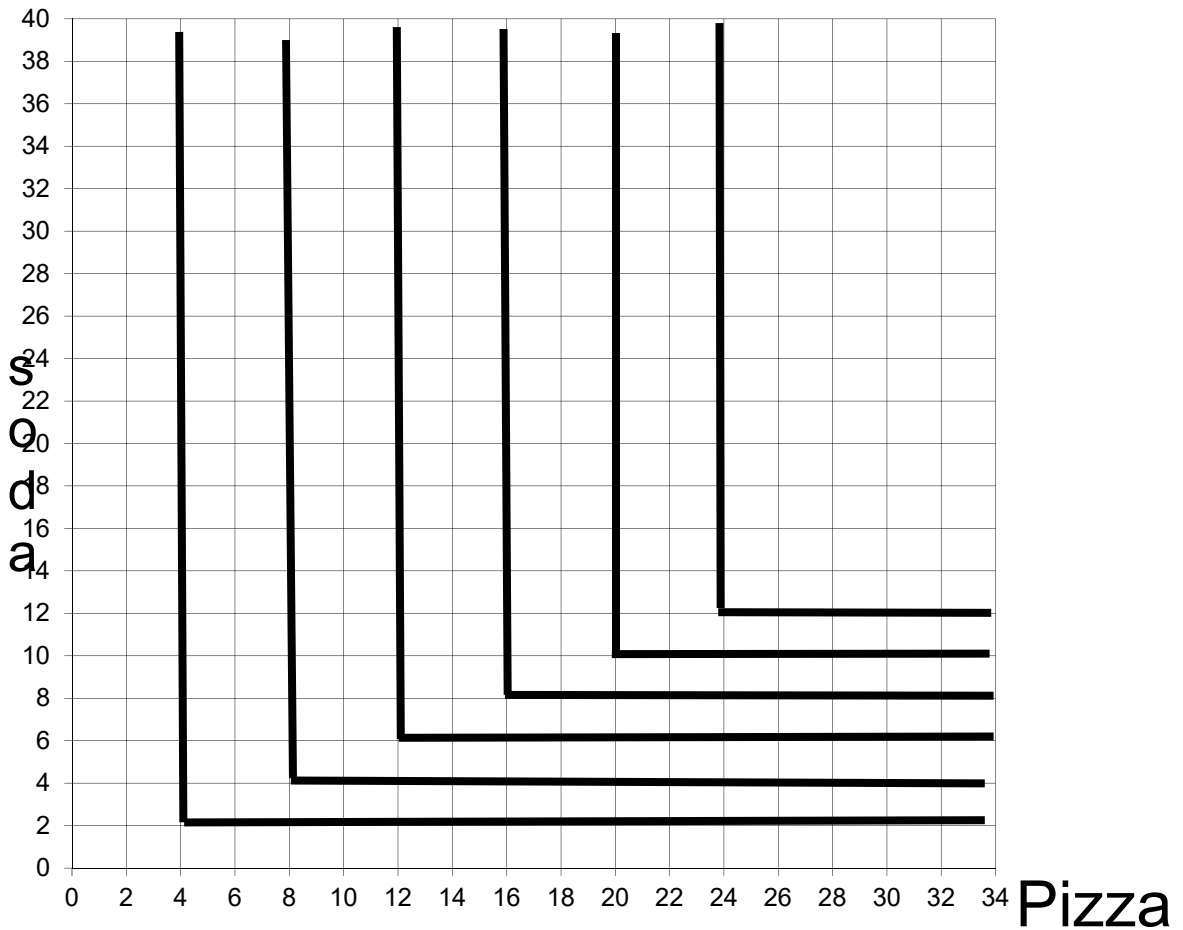
6. Long-run industry quantity Q^{LR} equals
 - a) 500
 - b) 700
 - c) 900
 - d) 800
 - e) 1000

7. Long-run number of firms N^{LR} equals
 - a) 50
 - b) 100
 - c) 150
 - d) 200
 - e) 300

8. Suppose the industry is initially in long-run equilibrium at demand D1 and the number of firms equals the number in the previous question. Demand then shifts to D2. In the **short-run**, the equilibrium price will be
 - a) 4
 - b) 5
 - c) 6
 - d) 7
 - e) 8

9. Continuing the previous question, after demand shifts to D2, in the short run, the profit of each firm will be
 - a) -12
 - b) -4
 - c) -8
 - d) 4
 - e) 9

The following six questions refer to the graph below. Sparty consumes soda and pizza and the graph illustrates his indifference curves.

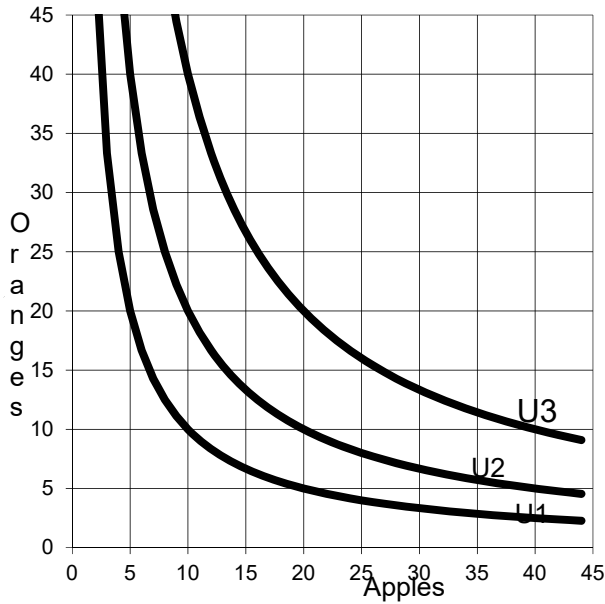


10. From Sparty's indifference curves, we can determine that Sparty is indifferent between having (12 pizza, 26 sodas) and
 - a) (14 pizzas, 24 sodas)
 - b) (16 pizzas, 10 sodas)
 - c) (24 pizzas, 6 sodas)
 - d) (8 pizzas, 8 sodas)
 - e) (16 pizzas, 16 sodas)

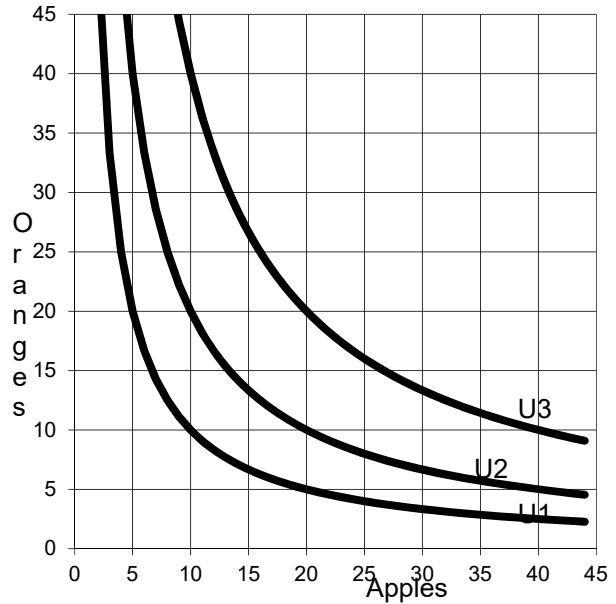
11. Suppose Sparty has an income of \$24, that $P^{\text{Pizza}} = \$2$, and that $P^{\text{Soda}} = \$2$. Draw Sparty's budget constraint in the above figure. From this we can see that the opportunity cost of one more slice of pizza equals
 - a) 1/2 soda
 - b) 1 soda
 - c) 2 sodas
 - d) 3 sodas
 - e) 4 sodas

12. At this income and prices, the optimal consumption bundle for Sparty is
- a) (12 pizzas, 0 sodas)
 - b) (0 pizzas, 12 sodas)
 - c) (8 pizza, 4 sodas)
 - d) (4 pizza, 12 sodas)
 - e) (12 pizza, 12 sodas)
13. Suppose the price of pizza falls to $P^{\text{Pizza}}=\$1$. Draw the new budget constraint. The fall in the price of pizza causes the quantity demanded of pizza to increase by how many units?
- a) 4
 - b) 5
 - c) 1
 - d) 2
 - e) 3
14. Following the price decrease in the previous question, the substitution effect of the price change increases demand for pizza by _____ units and the income effect increases demand by _____ units (fill in the blanks).
- a) 0, 2
 - b) 0, 4
 - c) 0, 6
 - d) 2, 2
 - e) 3, 3
15. Go back to the case where $P^{\text{Pizza}}=\$2$, and that $P^{\text{Soda}}=\$2$ and where Sparty has an income of \$24. Now suppose that income doubles to \$48. Draw in the new budget constraint and determine the optimal consumption bundle. By comparing consumption when income is \$24, to consumption when income is \$48, we can see that
- a) the share of income spent on pizza stays the same as income rises.
 - b) the share of income spent on soda stays the same as income rises.
 - c) pizza is a normal good.
 - d) soda is a normal good.
 - e) all of the above.
16. True or false? Sparty's preferences are an example of the case of perfect substitutes.
- a) True
 - b) False

Hermione works 5 hours a day. She can make 8 apples per hour or 2 oranges per hour. Hagrid works 10 hours a day. He can make 1 apple per hour or 4 oranges per hour. The figures below show the indifference curves for Hermione and Hagrid.



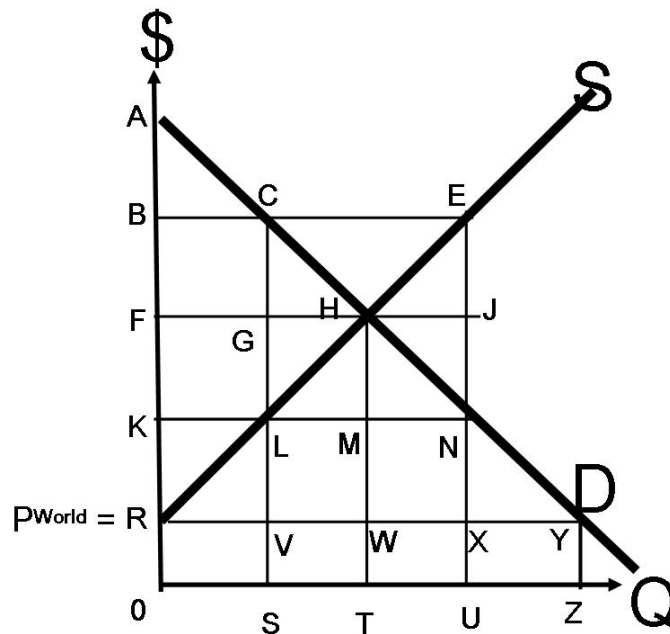
Hermione



Hagrid

Illustrate Hermione's and Hagrid's production possibility frontiers (ppf) in the graphs above and then answer the following questions.

17. _____ has an **absolute** advantage in making apples and _____ has a comparative advantage in making apples. (Fill in the blanks)
- Hagrid, Hagrid
 - Hermione, Hermione
 - Hagrid, Hermione
 - Hermione, Hagrid
18. Suppose trade is **impossible**, so each is in autarky. For each, production equals consumption. At the utility maximizing choice, Hermione produces and consumes
- (10 apples, 0 oranges)
 - (0 apples, 40 oranges)
 - (40 apples, 0 oranges)
 - (20 apples, 5 oranges)
 - (5 apples, 20 oranges)
19. Suppose trade with Hagrid is **possible** and the price of **one apple** in terms of oranges equals **one orange**. In this case, Hermione consumes _____ apples and _____ oranges. (Fill in the blanks.)
- 5, 20
 - 10, 20
 - 20, 20
 - 20, 10



The above graph illustrates the supply and demand for widgets in Econland. Widgets can be obtained in world markets at a price $P^{World} = R$ as illustrated. Suppose initially Econland is in autarky. Then it opens to free trade with the rest of the world.

23. Relative to autarky, free trade results in a **change** in Econland consumer surplus of ____ and a change in Econland total surplus of ____.
- FHYR, RHY
 - FHLK, RLNY
 - 0, 0
 - FHR, RHY
 - KLR, BENK
24. Suppose that instead of free trade, the government of Econland sets a tariff on widgets equal to KR. The change in Econland total surplus in moving from free trade to the tariff equals
- 0
 - RLNY
 - ENH
 - CHL
 - RLV-NXY
25. Suppose that instead of a tariff of KR a quota on imports equal to LN is imposed. Suppose that the ownership of the right to import the quantity LN is distributed to Econland residents S4 and S5. Then total Econland surplus under the quota is the same as under the tariff. True or False?
- True
 - False

26. When trade is based on increasing returns, it is possible for trading partners to both gain from trade, even when production possibility frontiers are the same for both. True or False?
- a) True
 - b) False

Name	Willingness to Pay
D1	5
D2	2
D3	6
D4	1

27. Econland, the willingness-to-pay for a national park is given by the table above. Suppose that a national park is nonrivalrous in consumption and nonexcludable. It is socially efficient to build the national park if and only if the cost is no higher than
- a) 5
 - b) 6
 - c) 14
 - d) 20
 - e) 1

28. The stock of ocean fish is a common resource that gives rise to what is sometimes called the “Tragedy of the Commons.” This is because the stock of ocean fishing is
- a) rivalrous in consumption and non-excludable
 - b) rivalrous in consumption and excludable
 - c) non-rivalrous in consumption and excludable
 - d) non-rivalrous in consumption and non-excludable

29. Which of the following statements regarding “cap and trade” policies is **not** true?
- a) It is a kind of “command and control” policy where government regulators make the decision of how a given cutback in carbon production will be achieved.
 - b) The policy is more political feasible than a carbon tax because industry groups that might block a tax can be potentially bought off by being given allowances.
 - c) The European Union has already adopted such a policy to limit carbon.
 - d) The policy has been used in the United States to address the problem of sulphur dioxide pollution

30. Each of the following is likely to be a successful way for the government to solve the problem of overuse of a common resource **except**
- a) selling the common resource to a private entity.
 - b) taxing the use or consumption of the common resource.
 - c) regulating the use or consumption of the common resource.
 - d) asking individuals to voluntarily reduce their use of the resource.
31. When a country allows trade and becomes an **importer** of a good
- a) both domestic producers and domestic consumers become better off.
 - b) both domestic producers and domestic consumers become worse off.
 - c) domestic producers become worse off, and domestic consumers become better off.
 - d) domestic producers become better off, and domestic consumers become worse off.
32. Cedric consumes food and education. The price of food and education are both \$10 per unit. However, there is a government subsidy program where Cedric gets \$5 back for every food unit he purchases. Thus, net of the subsidy, his effective food price is \$5 per unit. Suppose that under this arrangement, he buys 20 units of food and 10 units of education. The program costs the government \$100 (= \$5 times 20 food units). Suppose the government is considering a new program that would just give \$100 cash to Cedric. Which of the following statements is true?
- a) If the government gives \$100 cash instead of the \$5 subsidy, then Cedric will increase his purchases to **more** than 20 units of food.
 - b) Cedric's consumption will remain at 20 units of food and 10 units of education, because this consumption bundle is on his budget constraint, and the budget constraint condition is all that needs to be checked for the consumer optimum.
 - c) If, on account of the change in program to a \$100 cash payment, Cedric ends up buying less than 20 units of food, then he will be better off under the new program.
 - d) None of the above.