Microeconomics: In-class Quiz 1
Fall 2025

Student ID:

Name:

Instructions

1. Do NOT flip over this page until every student receives this quiz. Your TA will let you know when you can start.
2. During this closed-book quiz, you cannot consult any materials.
3. If you are unable to explain your reasoning in English, it is okay to write in Korean.
4. [**IMPORTANT**] Make your answers legible. Clearly delineate your scratches from your answers. Deducted points due to illegible writing cannot be the reason for reevaluation.

Honor Code: Cheating on exams or quizzes, plagiarizing someone else's answers as one's own, or any other instance of academic dishonesty violates the standards of academic integrity.

Confidentiality Code: Sharing the information of the exam or quiz contents with other students in any form and medium is strongly prohibited, as it raises information inequity.

I, _____, consent to the Honor Code and the Confidentiality Code.
(write your name)

1. Suppose that the market demand for sunflowers is a function of the price of sunflowers, the price of roses, and income. The elasticity of demand for sunflowers with respect to the price of roses is negative. Which of the following statement is correct?

1. Sunflowers and roses are substitutes.
2. Sunflowers and roses are complements.
3. Roses are luxury goods.
4. Sunflowers are inferior goods.

2. Suppose a fall in consumer income drives down the demand for lobster, while a record harvest increases supply. How would these changes affect the equilibrium price and quantity of lobsters?

1. Both equilibrium price and equilibrium quantity would decrease.
2. The equilibrium price would fall, but the effect on the equilibrium quantity is uncertain.
3. The equilibrium price would fall, and the equilibrium quantity would increase.
4. The equilibrium quantity would increase, but the effect on price is uncertain.

3. Larry's utility function is $U = 2X + 6Y$. The unit price for X is \$5, and the unit price for Y is \$10. Larry's income is \$50. Which of the following statement is correct?

1. For Larry, X and Y are perfect complements.
2. Larry's marginal rate of substitution is constant.
3. To maximize his utility, Larry will spend all his income to buy X.
4. 5 units of X and 2 units of Y are not feasible for Larry.

4. In the market for sugar, the quantity demanded and quantity supplied are expressed mathematically as $Q^D = 400 - 200P$ and $Q^S = 300P - 100$, where P is the price per pound of sugar and Q measures pounds of sugar. Suppose the government sets a price floor of \$1.5 per pound of sugar.

(a) Draw the supply and demand functions on the graph. (Make sure that the y-axis represents P, which means that you need to draw inverse supply and demand functions.)

(b) Find the equilibrium quantity and price without the price floor.

(c) Find the equilibrium quantity and price with the price floor.

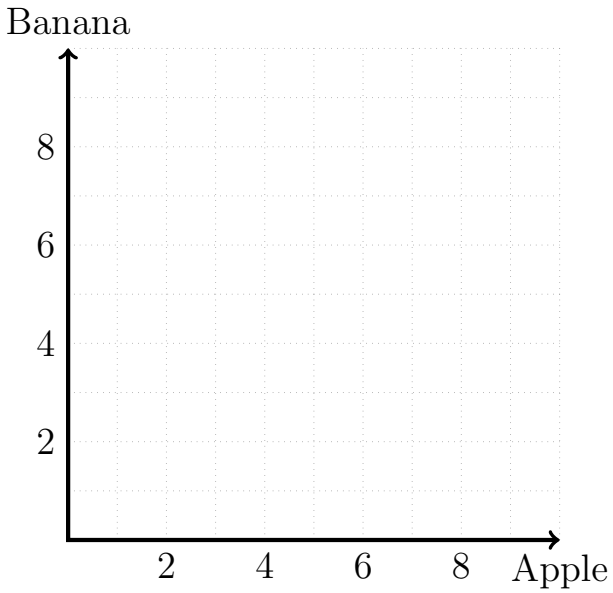
(d) Calculate the consumer surplus with the price floor.

5. Andy's utility on apples (a) and bananas (b) is given as $U(a, b) = a^2 b$.

(a) Find three consumption bundles (a, b) that render utility value of 4, and depict them on the graph below with an $\circ$ mark.

(b) Find three consumption bundles that render utility value of 9, and depict them on the graph below with an $\times$ mark.

(c) On the graph below, draw two indifference curves for Andy.



6. Draw two indifference curves for the following pairs of goods, and indicate the direction of larger utility values. (Check the example below.)

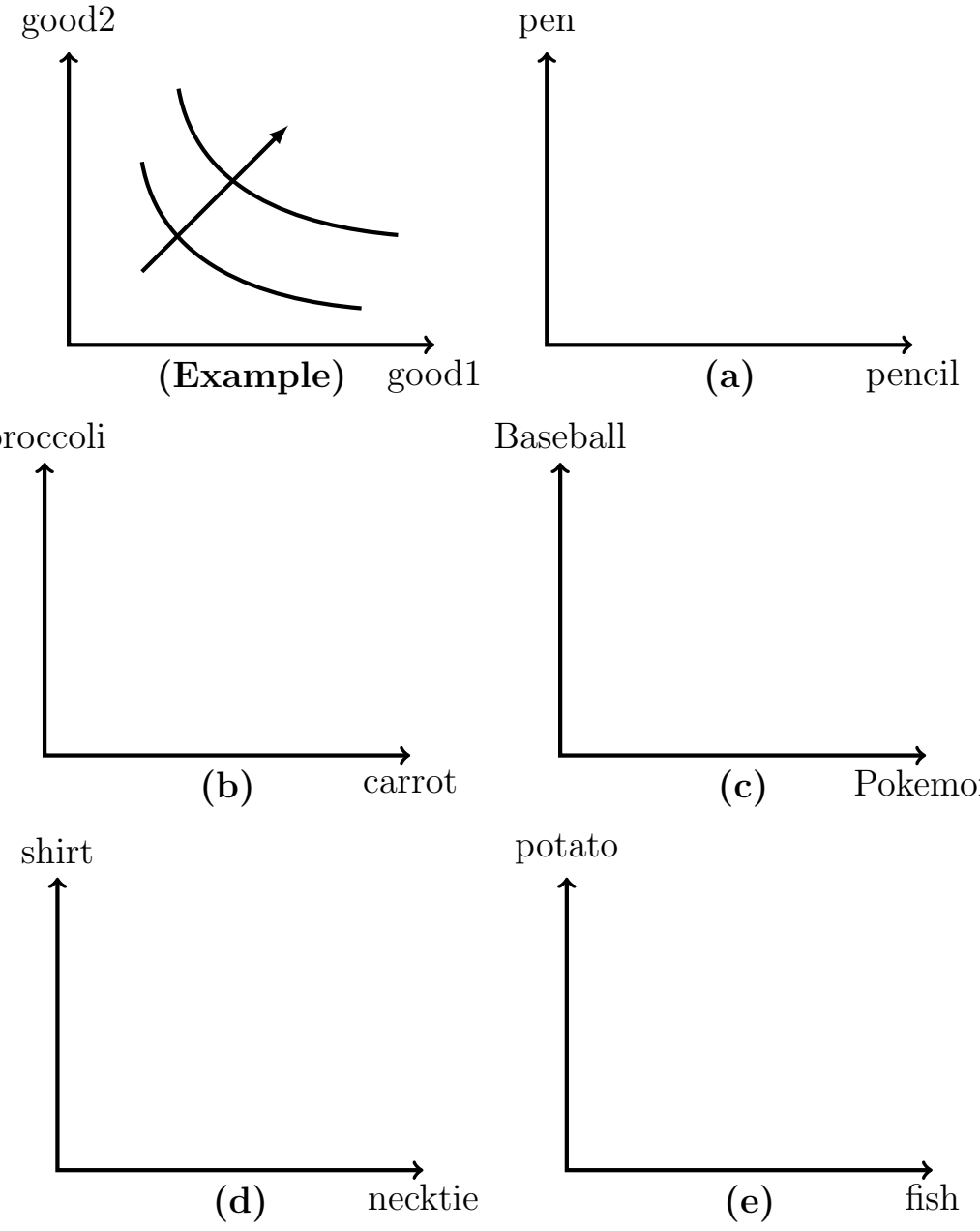
(a) Andy likes pencils and pens, but does not care which he writes with.

(b) Bart likes carrots and dislikes broccoli.

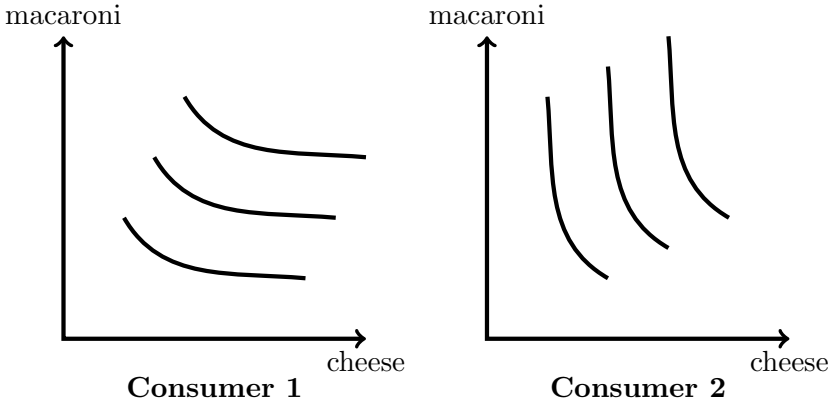
(c) Carl likes Pokemon cards and doesn't care about baseball cards.

(d) Dennis only likes neckties and dress shirts in 1 to 2 proportions. (That is, for every tie, he likes to have two shirts.)

(e) Edward dislikes both fish and potatoes.



7. Joey likes macaroni and really loves cheese. Phoebe likes cheese and really loves macaroni. Below are two sets of indifference curves for Joey and Phoebe. Which set of indifference curves belong to Joey? Explain why. (Hint: Consider the marginal rate of substitution.)



Consumer 1 **Consumer 2**