

EE211 Section 1

Homework 1 due on September 4 th, 2024 (Email: kaewkwanee211@gmail.com) Explain your answers with graph in details.

Mankiw, N.G., (2023) **Principles of Microeconomics**, 10th ed., Cengage, (ISBN-13: 978-981-5119-30-5)

Chapter 3

Problems and Applications # 4,5, and 6

4 Suppose that there are 10 million workers in Canada and that each of these workers can produce with either 2 cars or 30 bushels of wheat in a year.

- What is the opportunity cost of producing a car in Canada? What is the opportunity costs of producing a bushel of wheat in Canada? Explain the relationship between the opportunity costs of the two goods.
- Draw Canada's production possibilities frontier. If Canada chooses to consume 10 million cars, how much wheat can it consume without trade? Label this point on the production possibilities frontier.
- Now suppose that the United States offers to buy 10 million cars from Canada in exchange for 20 bushels of wheat per car. If Canada continues to consume 10 million cars, how much wheat does this deal allow Canada to consume? Label this point on your diagram. Should Canada accept the deal?

5 England and Scotland both produce scones and sweaters. Suppose that an English worker can produce 50 scones per hour or 1 sweater per hour. Suppose that a Scottish worker can produce 40 scones per hour or 2 sweaters per hour.

- What country has the absolute advantage in the production of each good? Which country has the comparative advantage?
- If England and Scotland decide to trade, which commodity will Scotland export to England? Explain.
- If a Scottish worker could produce only 1 sweater per hour, would Scotland still gain from trade? Would England still gain from trade? Explain.

#6 The following table describes the production possibilities of two cities in the country of Baseballia:

	Pairs of Red socks per worker per hour	Pairs of White socks per worker per hour
Boston	3	3
Chicago	2	1

- Without trade, what is the price of white socks (in terms of red socks) in Boston? What is the price in Chicago?

- b. Which city has an absolute advantage in the production of each color sock? Which city has a comparative advantage in the production of each color sock?
- c. If the cities trade with each other, which color sock will each export?
- d. What is the range of prices at which mutually beneficial trade can occur?

Chapter 4

Problems and Applications # 3,4, 6, 8, 9, and 10

#3 Consider the market for minivans. For each of the events listed here, identify which of the determinants of demand or supply are affected. Also, indicate whether demand or supply increases or decreases. Then, draw a diagram to show the effect on the price and quantity of minivans.

- a. People decide to have more children.
- b. A strike by steelworkers raises steel prices.
- c. Engineers develop new automated machinery for the production of minivans.
- d. The price of sports utility vehicles rises.
- e. A stock market crash lowers people's wealth.

#4 Consider the market for video streaming services, TV screens, and tickets at movie theatres.

- a. For each pair, identify whether they are complements or substitutes:
 - video streaming and TV screens.
 - video streaming and movie tickets.
 - TV screens and movie tickets.
- b. Suppose a technological advance reduces the cost of manufacturing TV screens. Draw a diagram to show what happens in the market for TV screens.
- c. Draw two more diagrams to show how the change in the market for TV screens affects the markets for video streaming and movie theatres.

#6 Using supply and demand diagrams, show the effects of the following events on the market for sweatshirts.

- a. A hurricane in South Carolina damages the cotton crop.
- b. The price of leather jackets falls.
- c. All colleges require morning exercise in appropriate attire.
- d. New knitting machines are invented.

#8 The market for pizza has the following demand and supply schedules:

Price	Quantity demanded	Quantity supplied
\$4	135 pizzas	26 pizzas
5	104	53
6	81	81
7	68	98

Price	Quantity demanded	Quantity supplied
8	53	110
9	39	121

- Graph the demand and supply curves. What are the equilibrium price and quantity in this market?
- If the actual price in this market were **above** the equilibrium price, what would drive the market toward equilibrium?
- If the actual price in this market were **below** the equilibrium price, what would drive the market toward equilibrium?

#9 Consider the following events: Scientists reveal that eating oranges decreases the risk of diabetes, and at the same time, farmers use a new fertilizer that makes orange trees produce more oranges. Illustrate and explain what effect these changes have on the equilibrium price and quantity of oranges.

#10 Because bagels and cream cheese are often eaten together, they are complements.

- We observe that both the equilibrium price of cream cheese and the equilibrium quantity of bagels have risen. What could be responsible for this pattern: a fall in the price of flour or a fall in the price of milk? Illustrate and explain your answer.
- Suppose instead that the equilibrium price of cream cheese has risen, but the equilibrium quantity of bagels has fallen. What could be responsible for this pattern: a rise in the price of flour or a rise in the price of milk? Illustrate and explain your answer.

Chapter 5

Problems and Applications # 2,3, 5, and 10

#2 Suppose that business travelers and vacationers have the following demand for airline tickets from Chicago to Miami:

Price	Quantity demanded	Quantity supplied
\$ 150	2,100 tickets	1,000 tickets
200	2,000	800
250	1,900	600
300	1,800	400

- As the price of tickets rises from \$200 to \$250, what is the price elasticity of demand for (i) business travelers and (ii) vacationers? (Use the midpoint method in your calculations.)
- Why might vacationers and business travelers have different elasticities?

#3 Suppose the price elasticity of demand for heating oil is 0.2 in the short run and 0.7 in the long run.

- a. If the price of heating oil rises from \$1.80 to \$2.20 per gallon, what happens to the quantity of heating oil demanded in the short run? In the long run? (Use the midpoint method in your calculations.)
- b. Why might the elasticity depend on the time horizon?

#5 Cups of coffee and donuts are complements. Both have inelastic demand. A hurricane destroys half the coffee bean crop. Use appropriately labeled diagrams to answer the following questions.

- a. What happens to the price of coffee beans?
- b. What happens to the price of a cup of coffee? What happens to total expenditure on cups of coffee?
- c. What happens to the price of donuts? What happens to total expenditure on donuts?

#10 Consider public policy aimed at smoking.

- a. Studies indicate that the price elasticity of demand for cigarettes is about 0.4. If a pack of cigarettes currently costs \$5 and the government wants to reduce smoking by 20 percent, by how much should it increase the price?
- b. If the government permanently increases the price of cigarettes, will the policy have a larger effect on smoking one year from now or five years from now?
- c. Studies also find that teenagers have a higher price elasticity of demand than adults. Why might this be true?