

Homework #2

Professor: Alex Houtz
Due: September 18, 2026

Problem 1 (Competitive Markets).

Recall our discussion on competitive markets.

- (a) What characteristics define a competitive market? Why do these characteristics make a market competitive?
- (b) List two markets that are arguably competitive. Explain why they are competitive.
- (c) Describe the concept of equilibrium. Why does the market push buyers and sellers toward the equilibrium?

Problem 2 (Normal and Inferior Goods).

For each good or service below, indicate whether it is more likely to be a **normal good (N)** or an **inferior good (I)**. If a good could plausibly be either, provide a brief explanation as to why.

Good or Service	N	I	Good or Service	N	I
Airport lounge access	☐	☐	Professional pet grooming	☐	☐
Fast-food value meals	☐	☐	Front-row concert tickets	☐	☐
Secondhand textbooks	☐	☐	Shared streaming accounts	☐	☐
Meal-kit subscriptions	☐	☐	Motel rooms on road trips	☐	☐
Pawn-shop electronics	☐	☐	Boutique fitness classes	☐	☐
Smart-home devices	☐	☐	Store-brand energy drinks	☐	☐
Professional laundry service	☐	☐	Dollar-store holiday decorations	☐	☐

Problem 3 (Shifting Supply and Demand).

Suppose we are examining the market for baseballs. For each event below, mark whether the event shifts supply, demand, or neither. If supply or demand shift, indicate which direction they shift.

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Event	Supply		Demand		Neither
	Increase	Decrease	Increase	Decrease	
The price of leather used to make baseballs increases.	☐	☐	☐	☐	☐
Baseball becomes much more popular among children.	☐	☐	☐	☐	☐
The market price of baseballs increases.	☐	☐	☐	☐	☐
A new automated stitching machine lowers the cost of producing baseballs.	☐	☐	☐	☐	☐
The price of baseball gloves falls.	☐	☐	☐	☐	☐
Several baseball manufacturers leave the industry.	☐	☐	☐	☐	☐
Consumers expect baseballs to be substantially cheaper next month.	☐	☐	☐	☐	☐
The government imposes a tax on each baseball produced.	☐	☐	☐	☐	☐
The price of softballs falls.	☐	☐	☐	☐	☐
Major League Baseball requires teams to provide more souvenir baseballs to fans.	☐	☐	☐	☐	☐
The price of baseball tickets increases.	☐	☐	☐	☐	☐
Baseball manufacturers expect the price of baseballs to rise next month.	☐	☐	☐	☐	☐

Problem 4 (Welfare Analysis).

Now consider the market for baseball tickets (suppose this market is competitive).

- (a) Draw a supply and demand diagram. Label both curves, both axes, and the equilibrium price and quantity.
- (b) Shohei Ohtani joins the Dodgers and becomes a superstar. America is stunned by his unprecedented ability to both hit and pitch. Everyone gets into baseball. Draw what happens in the baseball ticket market. Label everything.
- (c) What happens to welfare in this market?
- (d) Suppose that the government decides that baseball is America's past-time and should thus be affordable for everyone. Which tool might the government use to **impose** a low price?
- (e) What is the welfare implication of such a policy? Draw this into your supply and demand diagram.

Problem 5 (Numerical Analysis).

Suppose that the supply and demand for millions of baseball tickets can be described by the following equations:

$$Q_s = 2P$$

$$Q_d = 160 - 2P$$

- (a) Find the equilibrium price and quantity.
- (b) Find the value of consumer and producer surplus.
- (c) Suppose now that instead of the government's policy in problem 4, MLB decides to subsidize stadiums to add more seats by paying stadiums s dollars for every ticket sold. Draw the market after MLB's subsidy. Label everything. (HINT: think of the MLB as acting like the government here).
- (d) On the graph, what area is consumer surplus? What area is producer surplus? What area is the cost of the subsidy? What area is DWL?
- (e) Solve for the DWL area as a function of the subsidy. Then set the subsidy to \$5 a ticket. What is the numerical value of DWL? Think about your units. (HINT: think of the subsidy as a negative tax. Also, remember the rule for finding consumer and producer surplus).

Problem 6 (Taxation).

We are examining the market for baseball artifacts.

- (a) Suppose that no matter the price, I would buy one baseball signed by Babe Ruth. What would my demand curve for baseballs signed by Babe Ruth look like?
- (b) Suppose I would pay the price that the MLB pays to source mud from a tributary of the Delaware River, but none at any higher price, and I would buy as much as Lena Blackburne is willing to sell me. What would my demand curve for Lena Blackburne mud look like? (If this question makes no sense to you, read [this story from the WSJ](#)).

- (c) If the government were to implement a tax on me, on which of these two products should the government implement that tax to raise revenue while minimizing DWL? Do you think this result can inform real world tax policy?