

# ECON 100: Introduction to Economics

## PRACTICE Exam 2, Fall 2026

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- Define any variables and/or state any assumptions you need to answer the problems.
  - All materials should be put away before beginning the exam. Use of cell phones during the exam for any purpose is forbidden.
  - Please write your answers in the space provided.
  - Keep your answers short but clear. Your goal is to convince a skeptical grader that you understand the relevant concepts well enough to answer the question you are given. Remember that your explanations **must** cite specific class concepts for full credit
  - The questions on the exam sum to 60 points.
  - Good luck on your Econ test!
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1. (1 point) What is your name?
2. (1 point) What section are you in?

# 1 True/False Questions

Indicate “T”rue or “F”alse for each of the following statements or claims. For each false statement, if you correctly and clearly explain why it is false, I will give you a bonus point. No explanations necessary for claims or statements. which you think are true.

3. (2 points) Suppose Spotify is the only music streaming service, and therefore has the ability to set prices. Suppose last month Spotify raised their subscription price by 20%, and the number of subscribers fell 5% after the price change. **Claim:** Spotify could increase their revenue by further increasing the price of their subscription.
  
4. (2 points) **Claim:** Removing a binding price floor will make consumers worse off.
  
5. (2 points) A firm is currently producing at their profit-maximizing quantity, and their average total cost is \$0.01 above marginal revenue. The firm has bid for a new technology which, if the firm wins the bid, would reduce their average total cost by \$1 at every level of output. The firm has a 60% chance of winning the bid. **Claim:** If the firm must pay their fixed costs before the firm knows whether or not they won they bid, it is consistent with profit-maximizing behavior to pay their fixed costs even though  $P < ATC$ .

6. (2 points) Assume supply and demand are linear. **Claim:** If demand and supply both shift in the same direction, their relative elasticity has no bearing on the impacts of those shifts on equilibrium price and quantity. (I.e., if both curves shift in the same direction, the effect of equilibrium price and quantity does not depend on whether or not supply is more/less elastic than demand, etc.)
7. (2 points) Suppose when it comes to hay rides, Hamilton students have a more elastic demand than families with children. Also suppose there is only one farm in Clinton which provides hay rides. **Claim:** Compared to charging one price for hay rides, the farm would earn more total revenue by charging one single price but offering a discount to families with children.

## 2 Multiple Choice Questions

Circle the best answer to each question. There is only one answer for each question. No explanation necessary.

8. (2 points) Assume a perfectly competitive market is in long-run equilibrium. Also assume all firms have identical cost structures. Based on what we have learned in class, which of the following **alone** is sufficient information to determine the equilibrium price in this market?
- A. The minimum of a firm's average variable cost curve is \$5.
  - B. The minimum of a firm's average total cost curve is \$5.
  - C. A firm's fixed cost is \$5.
  - D. The minimum of a firm's marginal cost curve is \$5.
9. (2 points) A bakery sells every cake for \$30. The bakery's 41st cake would cost \$32 to make, and the bakery's average total cost to make 41 cakes is \$20. Which of the following best describes whether or not the bakery should produce the 41st cake and why.
- A. Produce, price is higher than average total cost.
  - B. Produce, since total revenue from selling 41 cakes is higher than total cost to make 41 cakes.
  - C. Not produce, marginal cost is higher than marginal revenue.
  - D. Not produce and shut down for the day.

10. Consider the following table regarding the market for groups who need to print a poster for their economics research project. Willingness to pay represents each group's willingness to pay for a poster, and total cost represents the print shop's total cost to produce  $k$  posters (indicated the number of posters printed).

| Posters printed | Group   | Willingness to pay | Total cost |
|-----------------|---------|--------------------|------------|
| 0               | —       | —                  | \$0        |
| 1               | Group 1 | \$16               | \$5        |
| 2               | Group 2 | \$13               | \$12       |
| 3               | Group 3 | \$10               | \$21       |
| 4               | Group 4 | \$7                | \$32       |
| 5               | Group 5 | \$4                | \$45       |

- (a) (2 points) What is the equilibrium price and quantity traded in this market?
- A. 2 posters, at a price between \$7 and \$13.
  - B. 3 posters, at a price between \$9 and \$10.
  - C. 4 posters, at a price between \$7 and \$11.
  - D. 5 posters, at a price between \$4 and \$13
- (b) (2 points) Suppose the student senate mandates that one additional unit beyond equilibrium be produced to allow more students to print their poster (i.e., your equilibrium quantity plus one). What is the deadweight loss that arises from such a policy?
- A. \$7
  - B. \$11
  - C. \$4
  - D. \$13

### 3 Short Answer Questions

These questions all require an explanation. Remember you are trying to convince me you understand the why and the how of what you are doing, not simply getting the answer correct. Cite specific concepts from class in your answers for full credit.

11. **Clinton Monopoly.** Suppose a new barbershop opens in Clinton, and it is the only place to get a haircut in town. This barbershop therefore acts as a monopolist. Weekly demand for haircuts is given by  $P = 17 - 0.2Q$ . The barbershop's total cost for supplying  $q$  haircuts per week is given by  $TC = 5q$ . The barbershop has no fixed cost because the barbershop owns all their equipment and the building/land in which they are located.
- (a) (6 points) Compute the barbershop's profit-maximizing price and quantity of weekly haircuts. Also compute the barbershop's weekly profit at this price and quantity. Show all steps of your calculations. No explanation necessary.
  - (b) (6 points) Based on your answers to part a), indicate the barbershop's optimal short-run (this academic year) and long-run (next academic year) decision. Explain your answers in the context of the barbershop's costs for full credit.
  - (c) (4 points) What would the barbershop's profit-maximizing price and quantity be if they acted not as a monopolist but as a perfectly competitive firm? Therefore, what is the deadweight loss due to the barbershop being a monopoly? Show all steps of your calculations. No explanation necessary.

12. **Student-Worker Labor Market** Suppose the labor market for student workers in Clinton is perfectly competitive. Demand for number of workers  $L$  is given by  $W = 20 - 0.2L$ , where  $W$  is hourly wage measured in dollars. Suppose labor supply is given by  $W = 8 + 0.1L$ .
- (a) (8 points) Find the equilibrium wage and number of workers employed in the market. Show all calculations. Draw a supply-demand diagram for the labor market and indicate this equilibrium price and quantity. No explanation necessary.
  - (b) (6 points) Suppose a new employer opens and demands 15 workers at every possible wage level. Show the result of this change on your supply-demand diagram, and calculate the new equilibrium price and quantity. Show all calculations. No explanation necessary.
  - (c) (4 points) Define worker surplus as the difference between a worker's minimum wage at which they would work and their actual wage. How does total worker surplus change as a result of this increased demand for labor? Show all calculations. No explanation necessary.
  - (d) (6 points) There are two reasons for this change in total worker surplus. Explain each of them.

Extra Scrap Page