

# MIDTERM 1

**EXAM ENDS 10:10**

Closed book exam. No calculators, cell phones, or other electronic aids allowed.

Last Name: \_\_\_\_\_ First Name: \_\_\_\_\_

Your Student ID Number: \_\_\_\_ - \_\_\_\_ - \_\_\_\_\_

Please check your TA and the section number you were assigned to:

- |                          |                |     |     |                          |             |     |     |
|--------------------------|----------------|-----|-----|--------------------------|-------------|-----|-----|
| <input type="checkbox"/> | #01 Dias Vidal | M   | 4-5 | <input type="checkbox"/> | #07 Lee     | Th  | 5-6 |
| <input type="checkbox"/> | #02 Dias Vidal | M   | 5-6 | <input type="checkbox"/> | #08 Lee     | Th  | 4-5 |
| <input type="checkbox"/> | #03 Dias Vidal | W   | 5-6 | <input type="checkbox"/> | #09 Swanson | Tue | 4-5 |
| <input type="checkbox"/> | #04 Dias Vidal | W   | 4-5 | <input type="checkbox"/> | #10 Swanson | Tue | 5-6 |
| <input type="checkbox"/> | #05 Lee        | Tue | 6-7 | <input type="checkbox"/> | #11 Swanson | Th  | 4-5 |
| <input type="checkbox"/> | #06 Lee        | Tue | 5-6 | <input type="checkbox"/> | #12 Swanson | Th  | 5-6 |

**Instructions:** Answer the questions on your Scantron. Write on the Scantron your name (last name first), student ID number, and section number. There is no exam version number.

Suppose that the market for water is perfectly competitive. Demand is described by  $Q = 12 - P$ , and supply by  $P = 3 + (Q/2)$ . (Working space below)

1. What is the market price?

A	B	C	D	E
4	5	6	7	8

2. What is the market quantity?

A	B	C	D	E
6	7	8	9	10

3. What is consumer surplus?

A	B	C	D	E
9	16	18	32	50

4. What is producer surplus?

A	B	C	D	E
9	16	25	32	50

5. What is the marginal cost of production in this market at the equilibrium?

A	B	C	D	E
4	5	6	7	8

Demand is described by  $Q = 12 - P$ , and supply by  $P = 3 + (Q/2)$ . A tax of \$3 per unit is imposed on the water consumers above. (Working space below)

6. What is the new market price?

A	B	C	D	E
3	4	6	8	9

THE CORRECT ANSWER HERE IS 5, WHICH WAS NOT LISTED. 8 IS THE FULL PRICE TO CONSUMERS, BUT NOT THE TRANSACTION PRICE

7. What is the new market quantity?

A	B	C	D	E
4	5	6	7	8

8. What is the new consumer surplus?

A	B	C	D	E
4	8	14	16	32

9. What is the new producer surplus?

A	B	C	D	E
4	8	12	16	32

10. What is the deadweight loss from the tax?

A	B	C	D	E
0	3	6	9	12

11. Suppose instead a tax of \$10 is imposed. What now is the new market quantity?

A	B	C	D	E
0	1	2	3	4

12. What is the deadweight loss from this tax?

A	B	C	D	E
27	33	48	62	75

Demand is described by  $Q = 12 - P$ , and supply by  $P = 3 + (Q/2)$ . Suppose above instead of a tax of \$3, the government gives water producers a subsidy of \$6 for every unit they produce. (working space below)

13. What is the new market price?

A	B	C	D	E
2	3	6	8	9

14. What is the new market quantity?

A	B	C	D	E
6	8	10	12	14

15. What is the deadweight loss from the subsidy?

A	B	C	D	E
0	3	6	9	12

The road bridge from Outland to Euphoria has a capacity of 20,000 cars per hour. At peak periods demand (in 000) is  $100-5P$ , where  $P$  is the toll, always \$4. At off peak periods demand (in 000) is  $10-5P$ , and the toll is \$4. The toll revenue just covers the cost of the bridge.

16. What is the efficient toll at the peak period?

A	B	C	D	E
0	12	16	18	20

17. What is the efficient toll at the off-peak period?

A	B	C	D	E
-4	0	4	12	15

18. How many cars use the bridge per hour (in 000) off-peak at the efficient toll?

A	B	C	D	E
8	10	12	16	20

19. What is the deadweight loss of the \$4 toll at peak periods (in \$000 per hour)?

A	B	C	D	E
0	120	300	450	480

20. What is the deadweight loss of the \$4 toll at off peak periods (in \$000 per hour)?

A	B	C	D	E
0	10	25	32	48

21. What is the rent seeking loss created by the \$4 toll at peak periods (in \$000 per hour)?

A	B	C	D	E
0	240	260	300	320

22. Medical doctors in the USA earn very high incomes compared to some other countries such as Canada or Sweden. Which of the following statements is NORMATIVE?

- A. High doctor salaries in the USA are a result of the monopolistic practices of the American Medical Association
- B. US doctors earn more because they are better trained than their Canadian counterparts.
- C. US doctors earn more because the US health system is more efficient than the socialized Canadian system.
- D. High pay for doctors in the US attracts the most able people into medicine.
- E. Doctors have a long, difficult training and they deserve to be well compensated.

23. Which of the following is a requirement for **efficiency** in an economy?

- A. The government intervenes to prevent those who cannot work from starving.
- B. The government redistributes at least some income to those who are poorer.
- C. All people have to earn at least some income.
- D. No trades are possible which can make one person better off without making anyone else worse off
- E. All goods have at least one substitute.

24. The reason many economists argue that the efficient outcome should always be chosen by the government is that

- A. The American economy will only remain internationally competitive if it is efficient.
- B. Efficiency measures count the desires of the rich much more than those of the poor, and it is the rich who have made America what it is.
- C. If the government does not choose efficient outcomes we will end up paying as much in taxes as the wretched Danes.
- D. Such a policy maximizes total income. The government can then redistribute if it wishes through tax policy.
- E. The average person will be happier if we maximize efficiency.