

**Econ 101, Sections 3 and 4, S11, Schroeter
Final Exam, Special code = 0002**

Choose the single best answer for each question. Do all of your scratch-work in the side and bottom margins of pages.

1. The term "market failure"
 - a. means the same thing as "market power."
 - b. refers to the disappearance of a market when firms decide that it is no longer profitable to produce a particular product.
 - *. refers to the failure of a market to produce an efficient allocation of resources.
 - d. describes a situation in which the prices of domestically-produced goods are undercut by foreign competitors.

2. Which of the following is most likely to be a part of your opportunity cost of going to college?
 - a. the income you earn at your part-time job with ISU Dining Services.
 - b. the rent that you pay for your off-campus apartment.
 - c. the money you spend on entertainment in Campus Town.
 - *. the cost of books required for your classes.

3. Which of the following is an example of a positive, as opposed to a normative statement?
 - *. "Pollution taxes decrease the amount of pollution generated by firms."
 - b. "The minimum wage should be abolished."
 - c. "It's not fair to cut Medicare benefits in order to give tax breaks to the rich."
 - d. "Taking care of society's underprivileged is more important than balancing the budget."

4. Suppose that a nation is currently producing at a point inside its production possibilities frontier. In this case, the nation
 - a. is producing an efficient combination of goods and services.
 - b. is producing beyond its capacity, so depletion of resources will occur over time.
 - *. is not using all of its resources, or is using them inefficiently, or both.
 - d. will incur a large opportunity cost if it tries to increase the production of any good.

5. Mike and Rachel are two furniture makers who both make tables and chairs. Each of them has a production possibility frontier that is a straight line. If Mike devotes all of his time to making tables, he can make 4 per month. If he devotes all of his time to making chairs, he can make 20 per month. If Rachel devotes all of her time to one activity or the other, she could make either 6 tables or 18 chairs in a month. Which of the following is true?
 - a. Rachel has the comparative advantage in making chairs.
 - *. Mike has the comparative advantage in making chairs.
 - c. Neither Mike nor Rachel has the comparative advantage in making chairs.
 - d. Impossible to determine without more information.

Questions 6 and 7 are based on the following information. Two small countries, Humboldt and Hamilton, use their labor resources to produce two goods: steel and cement. The table below gives the number of hours of labor needed to produce one ton of each type of good in each country.

	Hours need to produce one ton of	
	steel	cement
Humboldt	4	1
Hamilton	3	2

6. Which of the following is true?

- *. Hamilton has the comparative advantage in the production of steel.
- b. The resource cost of one ton of steel in Humboldt is 0.25 hours.
- c. The opportunity cost of one ton of cement in Hamilton is 1.5 tons of steel.
- d. None of the above is true.

7. Suppose that there is an international market in which steel and cement can be traded. If the trade price of one ton of steel is 2 tons of cement,

- *. Humboldt would want to buy steel and Hamilton would want to buy cement.
- b. Humboldt would want to buy cement and Hamilton would want to buy steel.
- c. both countries would want to buy steel.
- d. both countries would want to buy cement.

8. Which of the following would lead to an increase in the supply of a good?

- a. an increase in the good's own price.
- b. an increase in the price of an input used to produce the good.
- c. an increase in the demand for the good.
- *. none of the above.

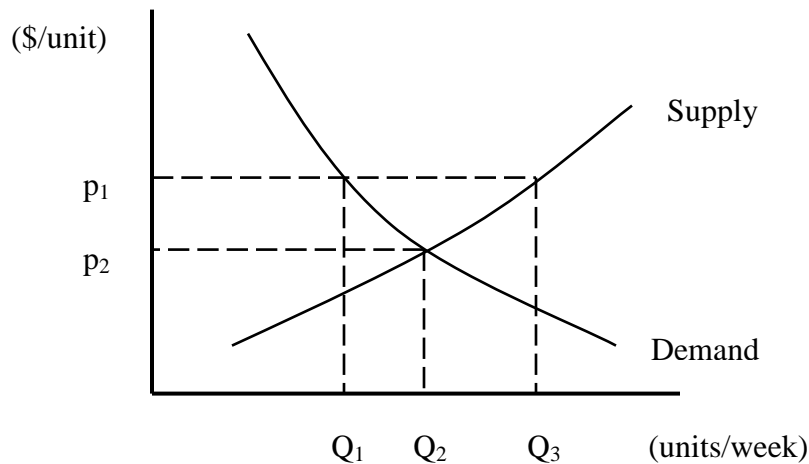
9. In the competitive market for a certain good, we observe an increase in equilibrium quantity and a simultaneous decrease in equilibrium price. This is likely the result of

- a. an increase in demand for the good.
- *. an increase in supply of the good.
- c. a decrease in demand for the good.
- d. a decrease in supply of the good.

10. In the competitive market for widgets, which of the following would definitely lead to an increase in equilibrium quantity while allowing the possibility that equilibrium price could increase, could decrease, or could stay the same?

- a. a cost-saving technological advance in the production of widgets combined with a decrease in the demand for widgets.
- *. an increase in the price of a substitute good combined with an increase in the supply of widgets.
- c. an increase in the price of a complement good combined with a decrease in the supply of widgets.
- d. None of the above.

Questions 11, 12, and 13 refer to the following graph of supply and demand in a competitive market.



11. At a price of p_1 , there is
- excess demand in quantity $Q_2 - Q_1$ units/week.
 - excess supply in quantity $Q_3 - Q_1$ units/week.
 - excess demand in quantity $Q_3 - Q_2$ units/week.
 - none of the above.
12. At a price of p_2 , the quantity demanded is
- Q_1 units/week.
 - Q_2 units/week.
 - equal to the quantity supplied.
 - both *b* and *c*.
13. A shift in equilibrium to quantity Q_1 and price p_1 would require
- a decrease in demand.
 - an increase in demand.
 - a decrease in supply.
 - an increase in supply.
14. In a competitive market with inelastic demand, supply increases. As a result equilibrium price will
- increase and the revenue of sellers of the good will increase.
 - increase and the revenue of sellers of the good will decrease.
 - decrease and the revenue of sellers of the good will increase.
 - decrease and the revenue of sellers of the good will decrease.

15. Suppose that scientists announce their discovery that chocolate increases the levels of good cholesterol for those who eat it. At the same time, the price of cocoa beans (the main ingredient used to make chocolate) increases. What effects would we expect to see in the competitive market for chocolate? The equilibrium price of chocolate

- *. would increase and the equilibrium quantity of chocolate could either increase, decrease, or stay the same.
- b. would decrease and the equilibrium quantity of chocolate could either increase, decrease, or stay the same.
- c. could either increase, decrease, or stay the same, and the equilibrium quantity of chocolate would increase.
- d. could either increase, decrease, or stay the same, and the equilibrium quantity of chocolate would decrease.

16. Studies have shown that when average household income in a community increases from \$45,000 per year to \$55,000 per year, the demand for wine increases from 20 bottles/household/year to 28 bottles/household/year. Over this income range, the income elasticity of demand for wine (calculated by the midpoint method) is

- a. 2.200.
- *. 1.667.
- c. 0.600.
- d. 0.455.

17. A legal maximum price at which a good can be sold is called a price

- a. floor.
- *. ceiling.
- c. subsidy.
- d. support.

18. There is a minimum wage that applies to all labor markets. But in one particular labor market, the competitive market for fast-food workers in Center City, the minimum wage is currently *non-binding*. Which of the following events could cause the minimum wage to become binding in the market for fast-food workers in Center City?

- a. an increase in the demand for fast-food workers in Center City.
- b. a decrease in the supply of fast-food workers in Center City.
- c. a decrease in the minimum wage.
- *. none of the above.

19. In the competitive market for a particular good, the elasticity of supply is 1.5 and the elasticity of demand is -0.8. If the government were to impose a \$1.00/unit excise tax on the market the price buyers pay (inclusive of the tax) would increase by

- a. a positive amount that is less than \$0.50/unit.
- *. more than \$0.50/unit but less than \$1.00/unit.
- c. \$1.00/unit.
- d. more than \$1.00/unit.

Questions 20 and 21 refer to the following demand and supply schedules for a good traded in a competitive market. Price is in \$/unit and quantities demanded and supplied are in units/day.

When the price is . . .	the quantity demanded is . . .	and the quantity supplied is . . .
1.50	980	860
1.60	940	880
1.70	900	900
1.80	860	920
1.90	820	940
2.00	780	960
2.10	740	980

20. If an excise tax of \$0.30/unit is imposed on this market, the price that buyers will pay (inclusive of the tax) will be

- a. \$2.00/unit.
- b. \$1.90/unit.
- *. \$1.80/unit.
- d. \$1.60/unit.

21. Over the range of prices listed in the table, both the demand and supply curves are straight lines. The deadweight loss of a \$0.30/unit excise tax will be

- a. \$270.00/day.
- b. \$86.00/day.
- c. \$9.00/day.
- *. \$6.00/day.

22. Rodney's willingness to pay for his first large pepperoni pizza of the month is \$18. His willingness to pay for his second large pepperoni pizza of the month is \$15. He has zero willingness to pay for the third, fourth, etc., large pepperoni pizzas each month. If the price of large pepperoni pizzas decreases from \$16 to \$14, Rodney's consumer surplus increases from

- a. \$2/month to \$4/month.
- b. \$3/month to \$6/month.
- c. \$3/month to \$5/month.
- *. \$2/month to \$5/month.

23. Welfare economics is the study of

- a. the standard of living of underprivileged classes in our society.
- b. welfare programs in the United States.
- *. how the allocation of resources affects economic well-being.
- d. the effect of income redistribution on work effort.

24. Producer surplus measures the
- a. amount that buyers are willing to pay, over and above the costs of production.
 - *. benefit sellers receive from participating in a market.
 - c. costs of producing the equilibrium quantity.
 - d. difference between consumer surplus and the costs of production.
25. The imposition of an excise tax on the competitive market for a particular good results in a decrease in consumer surplus of \$5000/day, a decrease in producer surplus of \$2500/day, and tax revenue of \$6000/day. The deadweight loss of this tax is
- a. \$8500/day.
 - b. \$2500/day.
 - *. \$1500/day.
 - d. \$1000/day.
26. When a country imposes a tariff on imports of steel, the tariff generates revenue of \$2000/day, domestic steel producer surplus increases by \$5000/day, and domestic steel consumer surplus decreases by \$8500/day. The deadweight loss of this tariff is
- a. \$3500/day.
 - b. \$3000/day,
 - *. \$1500/day.
 - d. none of the above.
27. When a nation lifts a trade ban and becomes an importer of a good, the surplus of domestic consumers of the good _____ and the surplus of domestic producers of the good _____.
- a. increases; increases.
 - b. decreases; decreases.
 - *. increases; decreases.
 - d. decreases; increases.
28. "If private parties can bargain without cost over the allocation of resources, they can solve the problem of externalities on their own." This proposition is called the
- a. Pigou theorem.
 - *. Coase theorem.
 - c. Mankiw theorem.
 - d. Landis theorem

29. At the local park, there is a children's playground. While anyone is allowed to use the playground, it is often very busy and the large crowds reduce the enjoyment for many of the children who use it. The playground is

- a. rival in consumption and excludable.
- *. rival in consumption and non-excludable.
- c. non-rival in consumption and excludable.
- d. non-rival in consumption and non-excludable.

30. Watts-are-Us and Powerama are two electric power utilities subject to the EPA's cap-and-trade regulation of acid-rain-causing sulfur emissions. If both utilities were to pollute up to their current holdings of sulfur allowances, their marginal abatement costs would be \$80/ton and \$120/ton for Watts-are-Us and Powerama, respectively. If the market price of sulfur allowances is \$110/ton,

- a. Watts-are-Us would want to buy additional allowances and Powerama would want to sell some of its current allowances.
- *. Powerama would want to buy additional allowances and Watts-are-Us would want to sell some of its current allowances.
- c. both utilities would want to buy additional allowances.
- d. both utilities would want to sell some of the allowances they currently have.

Questions 31 and 32 refer to the hypothetical income tax structure described by the following scheduled of marginal rates.

On taxable income . . .	the marginal tax rate is . . .
Up to \$15,000	10%
From \$15,000 to \$30,000	15%
From \$30,000 to \$100,000	22%
Over \$100,000	32%

31. What is the tax liability for a taxpayer with taxable income of \$65,000?

- a. \$14,300.
- b. \$12,200.
- *. \$11,450.
- d. \$9,750.

32. If the marginal tax rate applicable to the \$30,000 to \$100,000 tax bracket were reduced from 22% to 20%, and the tax brackets and all of the other marginal rates remained unchanged, what would be the impact on the tax owed by a taxpayer with taxable income in excess of \$100,000?

- *. It would decrease by \$1,400.
- b. It would decrease by \$2,000.
- c. It would remain unchanged.
- d. impossible to determine without more information. (One would have to know the taxpayer's specific taxable income.)

33. A firm's average total cost is \$3.50/unit when it produces 20 units of output per day. Its marginal cost of the 21st unit of output per day is \$5.00/unit. The firm's average total cost at an output rate of 21 units per day is approximately

- a. \$8.50/unit.
- b. \$4.25/unit.
- *. \$3.57/unit.
- d. \$3.31/unit.

34. The Galvanized Gizmo Company has fixed costs of \$100,000 per year. The firm's average variable cost is \$8/gizmo when it produces 10,000 gizmos/year. At that level of output, the firm's average total cost is

- *. \$18/gizmo.
- b. \$16/gizmo.
- c. \$14/gizmo.
- d. \$10/gizmo.

35. A firm's only variable input is labor and it hires workers in a competitive market at a wage of \$80/day. The firm's output is 120 units/day when it employs 4 workers. The marginal product of the 5th worker is 25 units/day. When the firm employs 5 workers, its average variable cost is approximately

- a. \$3.20/unit.
- *. \$2.76/unit.
- c. \$2.67/unit.
- d. \$1.81/unit.

36. A competitive firm faces a price of \$4.00/unit for its product. It is currently operating where marginal cost is \$3.00/unit and average total cost is \$1.50/unit. To maximize profit (or minimize loss) in the short-run, the firm should

- a. decrease output but not shut down.
- b. shut down.
- *. increase output.
- d. not enough information given for an answer.

37. A firm in a competitive market has the following cost structure:

Output (units/day)	Total cost (\$/day)
0	100
1	120
2	145
3	175
4	210
5	250

If the price of this firm's product is \$38/unit and its fixed costs are sunk, the firm will

- a. shut down in the short-run and exit in the long-run
- b. produce 3 units of output in the short-run and face competition from new entrants in the long-run.
- *. produce 4 units of output in the short-run and exit in the long-run.
- d. produce 3 units of output in the short-run and exit in the long-run.

38. Because a monopolist must reduce its price in order to sell another unit of output,

- a. average revenue will be less than price.
- *. marginal revenue will be less than price.
- c. total revenue always decreases with the sale of another unit of output.
- d. all of the above.

39. A monopolist is currently producing where average total cost, average variable cost, and marginal cost are \$6/unit, \$4/unit, and \$3/unit, respectively. At this output level, its price and marginal revenue are \$5/unit and \$3/unit, respectively. To maximize profit (or minimize loss) in the short run, the monopolist should

- a. shut down.
- b. decrease output but not shut down.
- *. maintain its current output.
- d. increase output.

40. Two different customers can be served at the same cost but are charged different prices by the same firm. What do economists call this business practice?

- a. average cost pricing
- *. price discrimination
- c. tit-for-tat pricing.
- d. loss avoidance pricing.

41. A market structure in which only a few sellers offer similar or identical products is called

- a. a cartel.
- b. a coalition.
- *. an oligopoly.
- d. a natural monopoly.

42. For a homogeneous product oligopoly, we can imagine three possible market outcomes:

- i.* the competitive (price = marginal cost) equilibrium.
- ii.* the monopoly (or joint-profit-maximizing) equilibrium.
- iii.* the Nash equilibrium.

Denote the market output levels for each of these cases by Q_C , Q_M , and Q_N for the competitive equilibrium, the monopoly equilibrium, and the Nash equilibrium, respectively. We would normally expect these output levels to compare in which of the following ways?

- a. $Q_M < Q_C < Q_N$
- *. $Q_M < Q_N < Q_C$
- c. $Q_N < Q_C < Q_M$
- d. $Q_C < Q_M < Q_N$

43. Suppose a market is initially perfectly competitive, with many firms selling an identical product. Over time, however, the merging of firms results in the market being served by only three or four firms selling this same product. As a result, we would expect

- a. an increase in market output and an increase in the price of the product.
- b. an increase in market output and a decrease in the price of the product.
- *. a decrease in market output and an increase in the price of the product.
- d. a decrease in market output and a decrease in the price of the product.

Questions 44 and 45 are based on the following information. Two firms in a local market are each trying to decide if it is better to advertise on TV, on radio, or not at all. If they both advertise on TV, each will earn a profit of \$4,000. If they both advertise on radio, each will earn a profit of \$7,000. If neither advertises at all, each will earn a profit of \$10,000. If one advertises on TV and the other advertises on radio, the one advertising on TV will earn \$6,000 and the other will earn \$5,000. If one advertises on TV and the other does not advertise, the one advertising on TV will earn \$11,000 and the other will earn \$2,000. If one advertises on radio and the other does not advertise, the one advertising on radio will earn \$12,000 and the other will earn \$4,000.

44. In the Nash equilibrium of this game

- a. neither firm advertises.
- b. both firms advertise on TV.
- *. both firms advertise on radio.
- d. None of the above. (This game has no Nash equilibrium.)

45. For each firm,

- a. there is no dominant strategy.
- b. the dominant strategy is to not advertise at all.
- c. the dominant strategy is to advertise on TV.
- *. the dominant strategy is to advertise on radio.

46. The value of the marginal product of labor is equal to the change in
- profit resulting from the addition of one more worker.
 - output resulting from the addition of one more worker.
 - marginal cost resulting from the addition of one more worker.
 - *. total revenue resulting from the addition of one more worker.
47. How much would I have to deposit today in a savings account paying interest at the rate of 3.5% per year in order to have \$100 in the account in 5 years?
- \$85.81.
 - \$85.47.
 - \$85.11.
 - *. \$84.20.
48. If I deposit \$80 in a savings account paying interest at the rate of 3% per year, how much will I have in the account in 3 years?
- *. \$87.42.
 - \$87.20.
 - \$87.01.
 - d. \$86.85.
49. You just won the lottery! Your prize is a series of three cash payments, each in the amount of \$6,000. One is paid to you today, the second will be paid to you in one year, and the third will be paid to you in two years. What is the present value of this series of three payments, calculated using an interest rate of 5%?
- \$17,198.03.
 - \$17,182.45.
 - \$17,168.83.
 - *. \$17,156.46.
50. I borrow \$1,000 today with the understanding that the loan must be repaid in a single payment of \$1,140 due in two years. What is the annual rate of interest implicit in the terms of this loan?
- 7.21%
 - 7.00%.
 - *. 6.77%.
 - d. 6.43%