

ECON301 Practice Exam #1

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Purdue University
February 16th 8:00 PM

Instructions

1. Answer Format (Scantron)

- Remove the scantron from the booklet. It is tucked behind this page.
- On the scantron, fill in the following information in the appropriate fields before turning in your exam. Course information is listed below for your use. Failure to include all of this information correctly may result in a grade of zero on this exam.
 - **Use a #2 pencil to fill in your scantron. Do not use pen!**
 - If you need a pencil, ask for one; we have pencils.
 - Write in your Last Name and First Name in the fields “Last Name” and “First Name” and bubble in the letters.
 - If your name has more letters than spaces, that’s okay. Write in one letter per space until you run out of spaces.
 - Write in “Grodeck” under “Instructor.”
 - Write in “ECON 301” under “Course,” “Exam 1” under “Test,” and put today’s date.
 - **Bubble your test version under “Test Form.”**
 - You have test version: **A**
 - Sign your name under “Signature.”
 - Enter your section number under “Section.” Make sure to include the leading zeros (i.e. 000#) and bubble in the numbers.
 - Enter your PUID number in the field “Student Identification number.” Make sure to include the leading zeros (i.e. 00#####) and bubble in the numbers.

2. Materials

- Scientific calculators are allowed.
- No other technology (phones, tablets, smartwatches, laptops, etc.) is permitted.
- No notes or books are allowed.
- The last pages of the exam are blank. You may use this as scratch paper.

3. Exam Conditions

- Duration: **90 minutes**.
- Total: **30 MCQ Questions**.

4. Academic Integrity

- All work must be your own.
- Keep your eyes on your own paper at all times.
- Cheating or the use of unauthorized materials will result in disciplinary action according to Purdue’s academic integrity policies.

5. Submission

- When finished, hand in your Scantron sheet & exam booklet.
- Be sure to **show your PUID** when submitting.

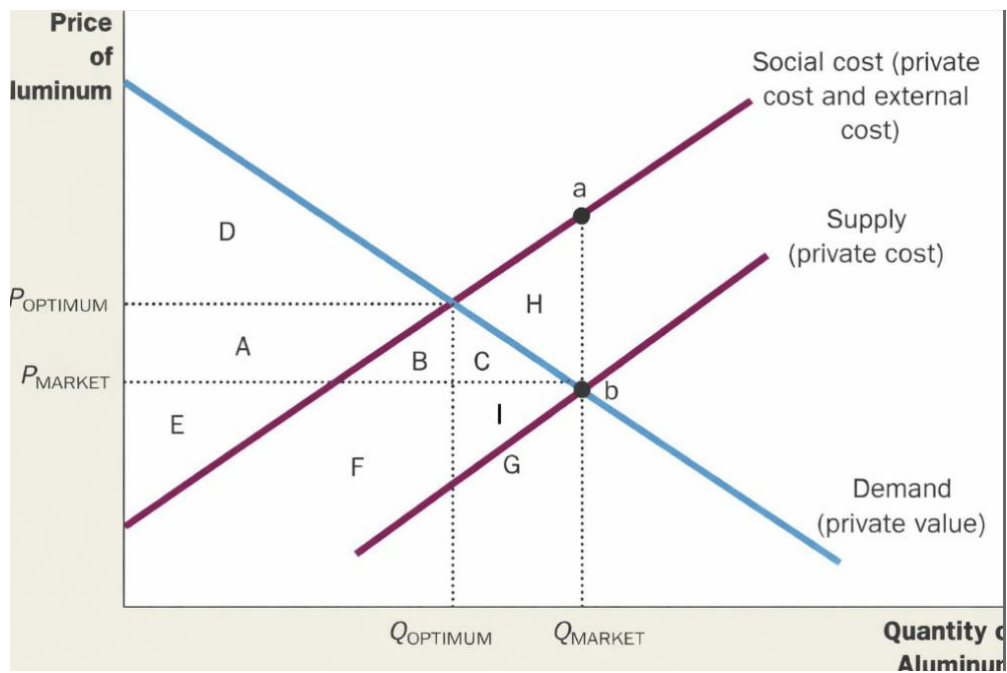
DO NOT SHARE THIS RESOURCE

- 1) Your neighbor is legally allowed to play loud music at night and values playing music at \$10 and not playing music at \$3. What is the minimum amount you could pay them to stop playing music?
 - A) 10
 - B) 7
 - C) 3
 - D) 0

- 2) A Club Sandwich is a
 - A) Private Good
 - B) Club Good
 - C) Common Good
 - D) Public Good

- 3) In a market for cars, there are sellers of high-quality cars, and low-quality cars (lemons). If Buyers have incomplete information, High Quality Sellers will
 - A) Sell at a higher profit
 - B) Sell at a lower profit
 - C) Sell at a loss
 - D) Exit the market

4) In what area is the Deadweight Loss?



- A) H
- B) C
- C) I
- D) C+I

5) Which of the following is not a market failure?

- A) Market Power
- B) A Binding Price Floor
- C) Public Goods
- D) Positive Externalities

- 6) Which of the following is an implicit cost to a firm that produces a good or service?
- A) labor costs
 - B) costs of operating production machinery
 - C) forgone profits of producing a different good or service
 - D) costs of renting or buying land for a production site
- 7) Consumer–consumer rivalry arises because of
- A) human nature.
 - B) the limited number of suppliers.
 - C) the scarcity of goods available.
 - D) the dependence of producers upon technology.
- 8) Economic profits are
- A) total revenue minus total cost.
 - B) marginal revenue minus marginal cost.
 - C) total revenue minus total opportunity cost.
 - D) total profits of the economy as a whole.
- 9) Samuel can spend his evening either studying for a test, watching a movie, or reading a book. Samuel values studying for the test the most and watching the movie as his next best alternative, but he doesn't feel like reading tonight. Samuel's implicit cost of studying for the test is
- A) studying for the test, watching the movie, and reading the book.
 - B) watching the movie and reading the book.
 - C) reading the book.
 - D) watching the movie.
 - E) studying for the test, watching the movie, and reading the book.

- 10) Negotiations between the buyer and seller of a new house are an example of
- A) consumer–consumer rivalry.
 - B) consumer–producer rivalry.
 - C) producer–producer rivalry.
 - D) monopoly.
- 11) Industry rivalry tends to be more intense when
- A) products are highly differentiated.
 - B) there is little product differentiation.
 - C) consumer switching costs are high.
 - D) firms do not compete on price.
- 12) The higher the interest rate,
- A) the greater the present value of a future amount.
 - B) the smaller the present value of a future amount.
 - C) the greater the level of inflation.
 - D) the smaller the level of inflation.
- 13) A farm must decide whether to purchase a new tractor. The tractor will reduce costs by \$2,000 in the first year, \$2,500 in the second, and \$3,000 in the third and final year of usefulness. The tractor costs \$9,000 today, while the stated cost savings will be realized at the end of each year. If the interest rate is 7 percent, what is the net present value of purchasing the tractor?
- A) -\$3,467.46
 - B) -\$2,498.35
 - C) \$2,320.12
 - D) \$6,501.65

- 14) A firm will have constant profits of \$100,000 per year for the next four years, and the interest rate is 6 percent. Assuming these profits are realized at the end of each year, what is the present value of these future profits?
- A) \$325,816.49
 - B) \$376,741.64
 - C) \$400,000.85
 - D) \$346,510.56
- 15) If the annual interest rate is 0 percent, the present value of receiving \$1.10 in the next year is
- A) \$1.00.
 - B) \$1.01.
 - C) \$1.11.
 - D) \$1.10.
- 16) If the interest rate is 5 percent, \$100 received at the end of seven years is worth how much today?
- A) $\frac{100}{(0.05)^7}$
 - B) $\frac{100}{(1+0.05)^7}$
 - C) $\frac{100}{(1+5)^7}$
 - D) 100
- 17) As the interest rate increases, the opportunity cost of waiting to receive a future amount
- A) increases.
 - B) decreases.
 - C) may rise or fall.
 - D) remains the same.

18) Given the cost function $C(Y) = 6Y^2$, what is the marginal cost? (Note: Calculus won't be necessary for the exam itself, this is just a good question, to get you think about the relationship between Total Functions, and Marginal Functions).

- A) $6Y$
- B) Y^2
- C) $3Y$
- D) $12Y$

19) If marginal benefits exceed marginal costs, it is profitable to

- A) increase Q (quantity, output produced).
- B) decrease Q (quantity, output produced).
- C) stay at that level of Q (quantity, output produced).
- D) produce zero.

20) What is the total benefit associated with producing four units of the control variable, Q (identify point A in the table)?

Control Variable	Total Benefits	Total Costs	Net Benefits	Marginal Benefit	Marginal Cost	Marginal Net Benefit
Q	B (Q)	C (Q)	N (Q)	MB (Q)	MC (Q)	MNB (Q)
0	0	0	0	–	–	–
1	900	100	800	900	100	800
2	1,700	300	C	800	200	600
3	2,400	600	1,800	700	E	400
4	A	1,000	2,000	600	400	200
5	3,500	1,500	2,000	500	500	F
6	3,900	2,100	1,800	D	600	–200
7	4,200	2,800	1,400	300	700	–400
8	4,400	B	800	200	800	–600
9	4,500	4,500	0	100	900	–800
10	4,500	5,500	–1,000	0	1,000	–1,000

- A) 600
- B) 2,600
- C) 3,000
- D) 3,400

21) Suppose the firm achieves total revenue of \$1,000 by selling 150 units, while facing total costs of \$900. If the firm produces and sells 151 units, their total revenue is \$1,005 and their total cost is \$950. Should the firm produce and sell the extra unit?

- A) no, since marginal profits are positive
- B) no, since marginal profits are declining
- C) yes, since profits are positive
- D) yes, since the marginal benefit is positive

- 22) Which of the following would *not* shift the demand for good A?
- A) drop in price of good A
 - B) drop in price of a related good B
 - C) a change in consumer income
 - D) change in the level of advertising of good A
- 23) The law of demand states that, holding all else constant,
- A) as price falls, demand will fall also.
 - B) as price rises, demand will also rise.
 - C) price has no effect on quantity demanded.
 - D) as price falls, quantity demanded rises.
- 24) An increase in the price of steak will probably lead to
- A) an increase in demand for chicken.
 - B) an increase in demand for steak.
 - C) no change in the demand for steak or chicken.
 - D) an increase in the supply for chicken.
- 25) Suppose the supply of good X is given by $Q_x^s = 10 + 2P_x$. How many units of good X are produced if the price of good X is 20?
- A) 10
 - B) 20
 - C) 30
 - D) 50
- 26) An inferior good is a good
- A) that has low quality.
 - B) that consumers purchase less of when their incomes are higher.
 - C) that consumers purchase more when their incomes are higher.
 - D) of high quality.

- 27) If consumers expect future prices to be higher,
- A) they substitute current purchases for future purchases of perishable products.
 - B) stockpiling will happen when the products are durable in nature.
 - C) the position of the demand will not change.
 - D) the demand for automobiles today will not change.
- 28) Which of the following is a linear demand function?
- A) $Q_x^d = \alpha_0 + \alpha_X P_X + \alpha_Y P_Y + \alpha_M M + \alpha_H H$.
 - B) $Q_x^d = \alpha P_X^{\alpha_X} P_Y^{\alpha_Y} M^{\alpha_M} H^{\alpha_H}$.
 - C) $Q_x^d = \alpha_0 + \alpha_X P_X^2 + \alpha_Y P_Y^2 + \alpha_M M^2 + \alpha_H H^2$.
 - D) $Q_x^d = \alpha + \alpha_X \log P_X + \alpha_Y \log P_Y + \alpha_M \log M + \alpha_H \log H$.
- 29) If the price of an input rises, producers are willing to produce
- A) more output at each given price.
 - B) less output at each given price.
 - C) the same output at each given price.
 - D) an indeterminable output as there is not enough information.
- 30) As additional firms enter an industry, the market supply curve
- A) shifts to the right.
 - B) shifts to the left.
 - C) remains the same.
 - D) shifts in an indeterminable direction as a result of insufficient information.

- 31) The supply function for good X is given by $Q_x^s = 1,000 + P_x - 5P_y - 2P_w$, where P_x is the price of X, P_y is the price of good Y, and P_w is the price of input W. If the price of input W increases by \$10, then the supply of good X
- A) will increase by 10 units.
 - B) will decrease by 20 units.
 - C) will decrease by 10 units.
 - D) will change by an indeterminable amount as there is not enough information.
- 32) Given a linear supply function of the form $Q_x^s = 3,000 + 3P_x - 2P_r - P_w$, find the inverse linear supply function assuming $P_r = \$1,000$ and $P_w = \$100$.
- A) $Q_x^s = 900 + 3P_x$.
 - B) $P_x = 300 + 0.3333Q_x$.
 - C) $P_x = -300 + 0.3333Q_x$.
 - D) $P_x = 2,900 + 3P_x$.
- 33) Suppose the demand for X is given by $Q_{xd} = 80 - P_x + 5P_y + 7M + 3A$, where P_x represents the price of good X, P_y is the price of good Y, M is income, and A is the amount of advertising on good X. Based on this information, we know that
- A) good X is a normal good.
 - B) good X is a complement for good Y.
 - C) good X has an upward sloping demand curve.
 - D) good X is an inferior good.
- 34) Other things being held constant, the greater the price of a good
- A) the higher the quantity demanded.
 - B) the greater the consumer surplus.
 - C) the lower the consumer surplus.
 - D) the lower the producer surplus.

35) Producer surplus is measured as the area

- A) below the demand curve and above the market price.
- B) above the demand curve and below the market price.
- C) above the supply curve and below the market price.
- D) below the supply curve and above the market price.

36) Suppose the market demand for good X is given by $Q_x^d = 20 - 2P_x$. If the equilibrium price of X is \$5 per unit, then consumer surplus is

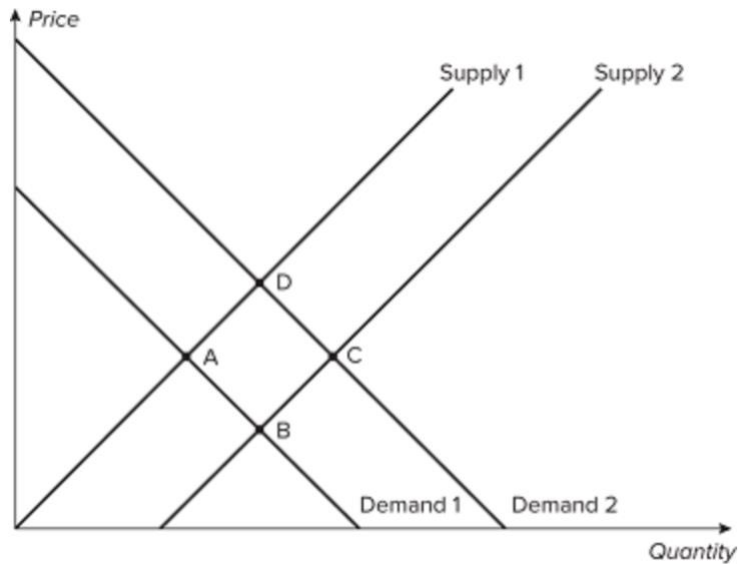
- A) \$100.
- B) \$75.
- C) \$50.
- D) \$25.

37) Consider a market characterized by the following inverse demand and supply functions:

$P_x = 40 - 4Q_x$ and $P_x = 10 + 2Q_x$. Compute the surplus received by consumers and producers.

- A) \$25 and \$25, respectively
- B) \$20 and \$40, respectively
- C) \$40 and \$20, respectively
- D) \$50 and \$25, respectively

38) Based on the graph, which of the following movements show the effect of a decrease in income for good X an inferior good?



- A) point A to point B
- B) point A to point D
- C) point D to point A
- D) point B to point A

39) The market for ice-cream is in equilibrium. Now suppose that price of milk used to make ice cream goes up and at the same time, new research shows that eating ice cream reduces risk of heart disease. What will be the effect of these changes on the equilibrium price and quantity in the ice-cream market?

- A) Price will increase, and effect on quantity is ambiguous.
- B) Quantity will decrease, and effect on price is ambiguous.
- C) Price will increase, and quantity will increase.
- D) Price will decrease, and quantity will increase.

- 40) An excise tax of \$1.00 per gallon of gasoline placed on the suppliers of gasoline would shift the supply curve
- A) down by \$1.00.
 - B) down by more than \$1.00.
 - C) up by \$1.00.
 - D) up by less than \$1.00.
- 41) Consider a market characterized by the following inverse demand and supply functions:
 $P_x = 10 - 2Q_x$ and $P_x = 2 + 2Q_x$. Compute the number of units exchanged and the price at which those units will be exchanged when there is an \$8 per unit price floor.
- A) 1 unit and \$6 per unit
 - B) 1 unit and \$8 per unit
 - C) 3 units and \$6 per unit
 - D) 3 units and \$8 per unit
- 42) An excise tax of \$1.00 per gallon of gasoline placed on the suppliers of gasoline in a market with downward sloping demand and upward sloping supply would raise the equilibrium price
- A) exactly \$1.00 per gallon.
 - B) by less than \$1.00 per gallon.
 - C) by more than \$1.00 per gallon.
 - D) an indeterminable amount as there is too little information.
- 43) If quantity demanded for sneakers falls by 10 percent when price increases 25 percent, we know that the absolute value of the own price elasticity of sneakers is
- A) 2.5.
 - B) 0.4.
 - C) 2.0.
 - D) 0.27.

- 44) If the cross-price elasticity between goods A and B is negative, we know the goods are
- A) inferior goods.
 - B) complements.
 - C) inelastic.
 - D) substitutes.
- 45) An income elasticity less than zero tells us that the good is
- A) a normal good.
 - B) a Giffen good.
 - C) an inferior good.
 - D) an inelastic good.
- 46) Suppose the own price elasticity of demand for good X is -0.5 , and the price of good X increases by 10 percent. We would expect the quantity demanded of good X to
- A) increase by 5 percent.
 - B) increase by 20 percent.
 - C) decrease by 5 percent.
 - D) decrease by 20 percent.
- 47) If demand for a good is perfectly inelastic, then
- A) the own price elasticity of demand is infinite in absolute value.
 - B) a small increase in price will lead to a situation where none of the good is purchased.
 - C) the demand curve is vertical.
 - D) the demand curve is horizontal.

- 48) The price elasticity of demand is -2.0 for a certain firm's product. If the firm raises its price, the firm manager can expect total revenue to
- A) decrease.
 - B) increase.
 - C) remain constant.
 - D) either increase or remain constant, depending upon the size of the price increase.
- 49) If the own price elasticity of demand is infinite in absolute value, then
- A) demand is perfectly elastic.
 - B) the demand curve is vertical.
 - C) consumers do not respond at all to changes in price.
 - D) the demand curve is vertical and consumers do not respond at all to changes in price.
- 50) Lemonade, a good with many close substitutes, should have an own price elasticity that is
- A) unitary.
 - B) relatively elastic.
 - C) relatively inelastic.
 - D) perfectly inelastic.
- 51) Demand tends to be
- A) more elastic in the short term than in the long term.
 - B) more inelastic in the short term than in the long term.
 - C) equally elastic in the short term and in the long term.
 - D) neither elastic nor inelastic in the long term.
- 52) Since most consumers spend very little on salt, a small increase in the price of salt will
- A) reduce quantity demanded by a large amount.
 - B) not reduce quantity demanded by very much.
 - C) not change quantity demanded.
 - D) increase quantity demanded by a small amount.

53) When marginal revenue is zero, total revenue

- A) will increase when price increases.
- B) is maximized.
- C) will decrease when price decreases.
- D) will decrease as quantity decreases.

54) The demand for video recorders has been estimated to be $Q_v = 134 - 1.07P_f + 46P_m - 2.1P_v - 5I$, where Q_v is the quantity of video recorders, P_f denotes the price of video recorder SD cards, P_m is the price of attending a movie, P_v is the price of video recorders, and I is income. Based on the estimated demand equation, we can conclude

- A) video recorders are inferior goods.
- B) video recorder SD cards is a substitute for video recorders.
- C) the demand for video recorders is inelastic.
- D) the demand for video recorders is neither inferior nor inelastic, and video recorder SD cards is not a substitute for video recorders.

55) The demand for good X has been estimated to be $\ln Q_x^d = 100 - 2.5 \ln P_X + 4 \ln P_Y + \ln A$.

The advertising elasticity of good X is

- A) 4.0.
- B) 1.0.
- C) 0.0.
- D) -2.5.