

ECON301 Practice Exam #2

Instructor: Professor Ben Grodeck

Purdue University
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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.

- 1) If Marginal Utility is decreasing, then Expected Utility is _____ Expected Value
 - A) Greater Than
 - B) Less Than
 - C) The same as
 - D) Unable to determine

- 2) If a person has a utility function of $u=x^2$,
 Then what is the expected utility of the following lottery?
 Win \$10 with 50% chance
 Win \$2 with 50% chance?
 - A) 50
 - B) 52
 - C) 100
 - D) 104

- 3) Which of the following is a correct interpretation of a utility function?
 - A) $u(a) = 10$ means good a provides exactly 10 units of happiness
 - B) If $u(a) = 10$ and $u(b) = 5$, then a is preferred twice as much as b
 - C) If $u(a) \geq u(b)$, then the consumer considers a at least as good as b
 - D) The utility function measures the dollar value of each good

- 4) You are offered a coin flip: heads you win \$5, tails you lose \$1. What is the expected value of this gamble?
 - A) \$4
 - B) \$3
 - C) \$2.50
 - D) \$2

- 5) Consider all cars that exist (past, present, future) as the universal set. Is the binary relation “**not** the same brand as” complete? Is it transitive?
 - A) Complete & Transitive
 - B) Complete & Not Transitive
 - C) Incomplete & Transitive
 - D) Incomplete & Not Transitive

- 6) Consider all cars that exist (past, present, future) as the universal set. Is the binary relation “the same brand as” complete? Is it transitive?
- A) Complete & Transitive
 - B) Complete & Not Transitive
 - C) Incomplete & Transitive
 - D) Incomplete & Not Transitive
- 7) Consider the population of all elephants (past, present, future) as the universal set. Is the binary relation “Is at least as heavy as” complete? Is it transitive?
- A) Complete & Transitive
 - B) Complete & Not Transitive
 - C) Incomplete & Transitive
 - D) Incomplete & Not Transitive
- 8) Which of the following is true?
- A) Indifference curves may intersect.
 - B) At a point of consumer equilibrium, the MRS always equals 1.
 - C) If income increases, a consumer will always consume more of a good.
 - D) An indifference curve represents combinations of consumption bundles that yield the same utility.
- 9) A situation where a consumer says he does not know his preference ordering for bundles X and Y would violate the property of
- A) more is better.
 - B) completeness.
 - C) substitutability.
 - D) complementarity.
- 10) The affordable bundle that yields the greatest satisfaction to the consumer is
- A) the maximum bundle.
 - B) the equilibrium consumption bundle.
 - C) the allowable purchasing bundle.
 - D) the most popular bundle.
- 11) The absolute value of the slope of the indifference curve is called the
- A) marginal revenue.
 - B) average rate of substitution.
 - C) marginal rate of substitution.
 - D) marginal cost.

- 12) The property that implies that indifference curves are convex to the origin is
- A) more is better.
 - B) completeness.
 - C) transitivity.
 - D) diminishing marginal rate of substitution.
- 13) Along the same indifference curve, MRS is _____ as more of good X is obtained.
- A) constant
 - B) increasing
 - C) decreasing
 - D) varying irregularly
- 14) The possibility of the endless cyclical preference is eliminated by the property of
- A) completeness.
 - B) more and better.
 - C) diminishing marginal rate of substitution.
 - D) transitivity.
- 15) Indifference curves further from the origin imply
- A) a higher level of satisfaction.
 - B) a lower level of satisfaction.
 - C) the same level of satisfaction as any other curve.
 - D) a higher budget.
- 16) Suppose a consumer with an income of \$200 is faced with $P_x = \$4$ and $P_y = \$5$. What is the market rate of substitution between good X (horizontal axis) and good Y (vertical axis)?
- A) -0.8
 - B) 2
 - C) -4
 - D) 0.5
- 17) The combinations of goods X and Y that are affordable to the consumer are defined by the
- A) consumption set.
 - B) income line.
 - C) budget constraint.
 - D) budget set.

- 18) Given that income is \$400 and the price of good Y is \$40, what is the vertical intercept of the budget line?
- A) 10
 - B) 15
 - C) 20
 - D) 25
- 19) The horizontal intercept of the budget line is
- A) $-\frac{P_X}{P_Y}$.
 - B) $\frac{M}{P_X}$.
 - C) $\frac{M}{P_Y}$.
 - D) $P_Y Y$.
- 20) The maximum quantity of good X that is affordable is
- A) $\frac{M}{P_Y}$.
 - B) $\frac{M}{X}$.
 - C) $\frac{M}{P_X}$.
 - D) $P_Y Y$.
- 21) $P_X X + P_Y Y = M$ is called
- A) an indifference curve.
 - B) an opportunity set.
 - C) a budget set.
 - D) a budget constraint.
- 22) The slope of the budget line represents
- A) the marginal rate of substitution.
 - B) the market rate of substitution.
 - C) the budget rate of substitution.
 - D) the opportunity rate of substitution.
- 23) If income decreases, *ceteris paribus*, then
- A) the budget line remains the same.
 - B) the budget line makes a parallel shift inward.
 - C) only the horizontal intercept of the budget line shifts upward.
 - D) the slope of the budget line becomes steeper.

- 24) A decrease in the price of good Y will have what effect on the budget line on a normal X-Y graph?
- A) increase the vertical intercept
 - B) decrease the horizontal intercept
 - C) parallel outward shift of the line
 - D) parallel inward shift of the line
- 25) Given that income is \$300, the price of good Y is \$15, and the price of good X is \$20, what is the vertical intercept of the budget line?
- A) 4,500
 - B) 300
 - C) 20
 - D) 15
- 26) When the price of one good increases, the associated income effect is represented by a move from one indifference curve to a
- A) lower indifference curve since real income is now higher.
 - B) lower indifference curve since real income is now lower.
 - C) higher indifference curve since real income is now higher.
 - D) higher indifference curve since real income is now lower.
- 27) If good X is represented on the X axis and good Y on the Y axis, what will happen to the budget line if the price of good Y decreases?
- A) It will become steeper.
 - B) It will become flatter.
 - C) It will have a parallel shift outward.
 - D) It will have a parallel shift inward.
- 28) If a decrease in income causes an increase in the consumption of bread, we know that bread is
- A) an inferior good.
 - B) a normal good.
 - C) a substitute.
 - D) a complement.

- 29) If an increase in the price of good X leads to an increase in the consumption of good Y, then goods X and Y are called
- A) substitutes.
 - B) complements.
 - C) normal goods.
 - D) inferior goods.
- 30) If widgets and gidgets are complements and both are normal goods, then a decrease in the demand for widgets will result from
- A) an increase in the price of widgets.
 - B) a decrease in income.
 - C) a decrease in the price of gidgets.
 - D) a decrease in the price of gidgets and a decrease in income.
- 31) If sugar and NutraSweet are substitutes, then we can be certain that a decrease in the price of sugar will lead to an increase in the consumption of
- A) NutraSweet only.
 - B) sugar only.
 - C) sugar and NutraSweet.
 - D) either or both as we cannot say with certainty.
- 32) The income effect isolates the change in the consumption of a good caused by the change in
- A) "real" income.
 - B) the relative prices of two goods.
 - C) consumer preferences.
 - D) "nominal" income
- 33) If money income *triples* and the price of all goods *doubles*, then the
- A) budget line remains unchanged.
 - B) consumer is worse off due to inflation.
 - C) consumer will buy more of normal goods.
 - D) budget line will shift left toward the origin.
- 34) The substitution effect isolates the change in the consumption of a good caused by
- A) the lower "real" income.
 - B) the change in consumer preferences.
 - C) the change in the market rate of substitution.
 - D) the change in number of sellers.

- 35) A price increase causes a consumer's "real" income to
- A) decrease.
 - B) increase.
 - C) remain unchanged.
 - D) vary along the budget line.
- 36) Suppose that consumers' preferences are well behaved in that properties 4-1 to 4-4 (completeness, more is better, diminishing marginal rate of substitution, and transitivity) are satisfied. Furthermore, assume that both X and Y are inferior goods and the price of good Y increases. Then the substitution effect will lead consumers to consume
- A) more of good X and more of good Y.
 - B) less of good X and more of good Y.
 - C) less of good X and less of good Y.
 - D) more of good X and less of good Y.
- 37) An in-kind gift causes the budget line to
- A) shift to the right in a parallel fashion.
 - B) shift to the left in a parallel fashion.
 - C) rotate counterclockwise.
 - D) not change.
- 38) A cash gift causes the budget line to
- A) shift to the right in a parallel fashion.
 - B) shift to the left in a parallel fashion.
 - C) rotate clockwise.
 - D) become flatter.
- 39) If a consumer is given a \$10 gift certificate good only for items in store X and all items in store X are normal goods, then the consumer desires to consume
- A) more goods in store X.
 - B) fewer goods in store X.
 - C) the same amount of goods in store X.
 - D) more goods from store Y.

- 40) If a worker receives a fixed payment of \$100 plus \$10 for every hour she works, what is the maximum total earnings the worker can receive if she is restricted to a maximum of 12 hours of work per day?
- A) \$220
 - B) \$120
 - C) \$340
 - D) \$125
- 41) Suppose the production function is given by $Q = 3K + 4L$. What is the marginal product of capital when 10 units of capital and 10 units of labor are employed?
- A) 3
 - B) 4
 - C) 11
 - D) 45
- 42) Suppose the production function is given by $Q = 3K + 4L$. What is the average product of capital when 5 units of capital and 10 units of labor are employed?
- A) 3
 - B) 4
 - C) 11
 - D) 45
- 43) The production function $Q = L^{.5}K^{.5}$ is called
- A) Cobb-Douglas.
 - B) Leontief.
 - C) linear.
 - D) multiplicative.
- 44) You are an efficiency expert hired by a manufacturing firm that uses K and L as inputs. The firm produces and sells a given output. If $w = \$40$, $r = \$100$, $MP_L = 4$, and $MP_K = 40$, the firm
- A) is cost minimizing.
 - B) should use less M and more L is cost minimize.
 - C) should use more K and less L to cost minimize.
 - D) is profit maximizing but not cost minimizing.

- 45) If the production function is $Q = K^{.5}L^{.5}$ and capital is fixed at 1 unit, then the average product of labor when $L = 25$ is
- A) $\frac{2}{5}$.
 - B) $\frac{1}{5}$.
 - C) 10.
 - D) $\frac{3}{5}$.
- 46) If the production function is $Q = KL$ and capital is fixed at 1 unit, then the marginal product of labor when $L = 25$ is
- A) $\frac{1}{4}$.
 - B) $\frac{1}{10}$.
 - C) 15.
 - D) 1.
- 47) The recipe that defines the maximum amount of output that can be produced with K units of capital and L units of labor is the
- A) production function.
 - B) technological constraint.
 - C) research and development schedule.
 - D) total product.
- 48) It is profitable to hire units of labor as long as the value of marginal product
- A) is less than wage.
 - B) exceeds average product.
 - C) equals price.
 - D) exceeds wage.
- 49) Given the Leontief production function $Q = \min\{5.5K, 6.7L\}$, how much output is produced when $K = 40$ and $L = 35$?
- A) 220
 - B) 234.5
 - C) 192.5
 - D) 268
- 50) The absolute value of the slope of the isoquant is the
- A) marginal rate of technical substitution.
 - B) marginal product of capital.
 - C) marginal rate of substitution.
 - D) value marginal product of labor.

- 51) With a linear production function, there is a
- A) perfect complementary relationship between all inputs.
 - B) perfect substitutable relationship between all inputs.
 - C) fixed-proportion relationship between all inputs.
 - D) variable-proportion relationship between all inputs.
- 52) The demand for labor by a profit-maximizing firm is determined by
- A) $MP_L = MC$.
 - B) $VMP_L = AC$.
 - C) $MP_L = W$.
 - D) $VMP_L = W$.
- 53) An isoquant defines the combination of inputs that yield the producer
- A) higher levels of output than the desired level of output.
 - B) lower levels of output than the desired level of output.
 - C) the same level of output.
 - D) variable levels of output.
- 54) Consider an isocost line with capital on the vertical axis and labor on the horizontal axis.
When the per-unit cost of labor and capital increases,
- A) the X-intercept and the Y-intercept move toward the origin.
 - B) the Y-intercept and the X-intercept moves away from the origin.
 - C) the Y-intercept moves toward the origin.
 - D) the X intercepts moves away from origin.
- 55) Costs that change as output changes are
- A) variable costs.
 - B) fixed costs.
 - C) sunk costs.
 - D) constant costs.
- 56) For the cost function $C(Q) = 100 + 2Q + 3Q^2$, the marginal cost of producing 2 units of output is
- A) 2.
 - B) 3.
 - C) 12.
 - D) 14.

- 57) The marginal cost curve
- A) lies always below the average total cost curve (ATC).
 - B) lies always above the average variable cost curve (AVC).
 - C) intersects the ATC and AVC at their maximum points.
 - D) intersects the ATC and AVC at their minimum points.
- 58) Fixed costs exist only in
- A) the long run.
 - B) capital-intensive markets.
 - C) the short run.
 - D) labor-intensive markets.
- 59) The long-run average cost curve defines the minimum average cost of producing alternative levels of output, allowing for optimal selection of
- A) fixed factors of production.
 - B) only one factor of production.
 - C) all factors of production.
 - D) sunk cost factors of production.
- 60) Suppose the long-run average cost curve is U-shaped. When LRAC is in the increasing stage, there exist
- A) economies of scope.
 - B) diseconomies of scope.
 - C) economies of scale.
 - D) diseconomies of scale.
- 61) Which of the following cost functions exhibits cost complementarity?
- A) $-4Q_1Q_2 + 8Q_1$
 - B) $-4Q_2 + 8Q_1$
 - C) $6Q_1Q_2 - Q_1$
 - D) $4Q_2Q_1 + 8Q_1$

62) Cost complementarity exists in a multiproduct cost function when

- A) the average cost of producing one output is reduced when the output of another product is increased.
- B) the average cost of producing one output is increased when the output of another product is increased.
- C) the marginal cost of producing one output is increased when the output of another produce is increased.
- D) the marginal cost of producing one output is reduced when the output of another product is increased.