Department of Economics
California State University, Fullerton
Econ 315, Sample Midterm 2

Please answer all the questions.

1. If the t ratio for the slope of a simple linear regression equation is equal to 1.614 and the critical values of the t distribution at the 1% and 5% levels of significance, respectively, are 3.499 and 2.365, then the slope is

   A. not significantly different from zero.
   B. significantly different from zero at both the 1% and the 5% levels.
   C. significantly different from zero at the 1% level but not at the 5% level.
   D. significantly different from zero at the 5% level but not at the 1% level.

2. The F statistic calculated from a multiple regression analysis is equal to 1.96. If the critical values of the F distribution are 2.42 and 3.47 at the 5% and 1% levels of significance, respectively, then

   A. at least one of the slope coefficients is significantly different from zero.
   B. none of the slope coefficients are significantly different from zero.
   C. all of the slope coefficients are significantly different from zero.
   D. no more than 5% (one out of twenty) of the slope coefficients are different from zero.

3. If the t ratio for the slope of a simple coefficient of a simple linear regression equation is -2.48 and the critical values of the t distribution at the 1% and 5% levels, respectively, are 3.499 and 2.365, then the slope is

   A. not significantly different from zero.
   B. significantly different from zero at both the 1% and the 5% levels.
   C. significantly different from zero at the 1% level but not at the 5% level.
   D. significantly different from zero at the 5% level but not at the 1% level.

4. If the F test statistic for a regression is greater than the critical value from the F distribution, it implies that

   A. none of the independent variables in the regression model have a significant effect on the dependent variable.
   B. all of the independent variables in the regression model have significant effects on the dependent variable.
   C. one or more of the independent variables in the regression model have a significant effect on the dependent variable.
   D. None of the above is correct.

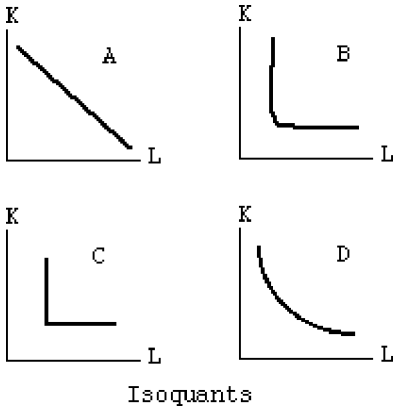
5. The marginal product of labor is equal to

   A. the additional labor required to produce one more unit of output.
   B. average product when average product is at a minimum.
   C. the additional output produced by hiring one more unit of labor.
   D. the slope of a ray drawn from the origin to a point on the total product curve.

6. The output elasticity of labor is

   A. equal to one at the level of output where average product is at a maximum.
   B. the percentage change in labor required to produce one more unit of output.
   C. equal to the ratio of total product to the quantity of labor employed.
   D. a measure of the percentage change in output that can result when the quantity of labor is held constant.

Use the following graphs to answer the question(s) below.

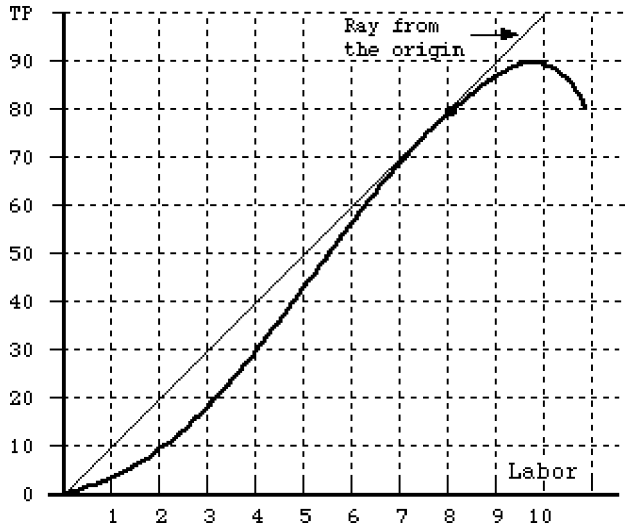


Isoquants

7. Refer to the isoquant graphs. Which of the four graphs shows an isoquant where capital (K) and labor (L) are perfect complements?

   A. Graph A
   B. Graph B
   C. Graph C
   D. Graph D

Use the following graph to answer the question(s) below.



8. Refer to the total product (TP) curve graph. At approximately what quantity of labor is the marginal product of labor equal to the average product of labor?

   A. 5
   B. 8
   C. 9.5
   D. 10.5

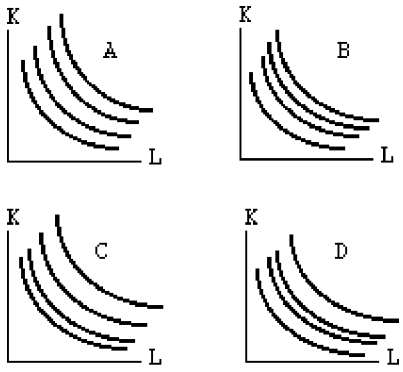
9. Refer to the total product (TP) curve graph. At approximately what quantity of labor is the marginal product of labor closest to zero?

   A. 1
   B. 5
   C. 8
   D. 9.5

10. Refer to the total product (TP) curve graph. At approximately what quantity of labor is the marginal product of labor closest to its maximum value?

    A. 2
    B. 5
    C. 8
    D. 9.5

    Use the following maps graph to answer the question(s) below.

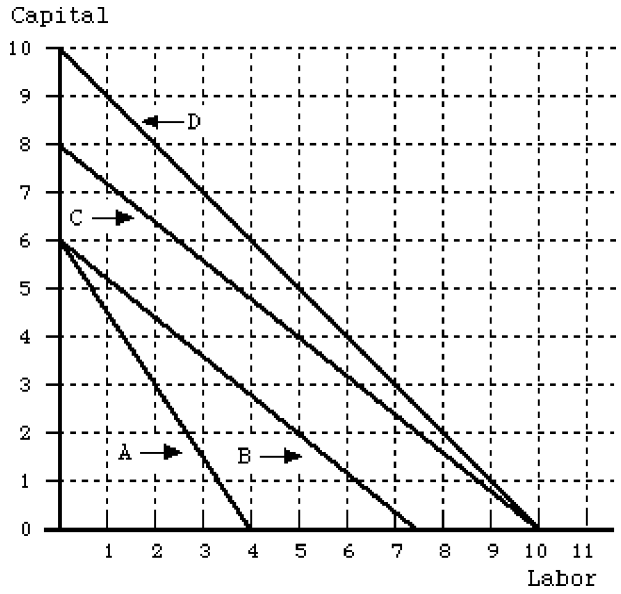


Isoquant Maps

11. Refer to the isoquant maps graph. Assume that the four isoquants in each graph represent output levels of 100, 200, 300, and 400. Which of the four graphs shows an isoquant map in which returns to scale are approximately constant?

    A. Graph A
    B. Graph B
    C. Graph C
    D. None of the above.

Use the following graph to answer the question(s) below.



Isocost Lines

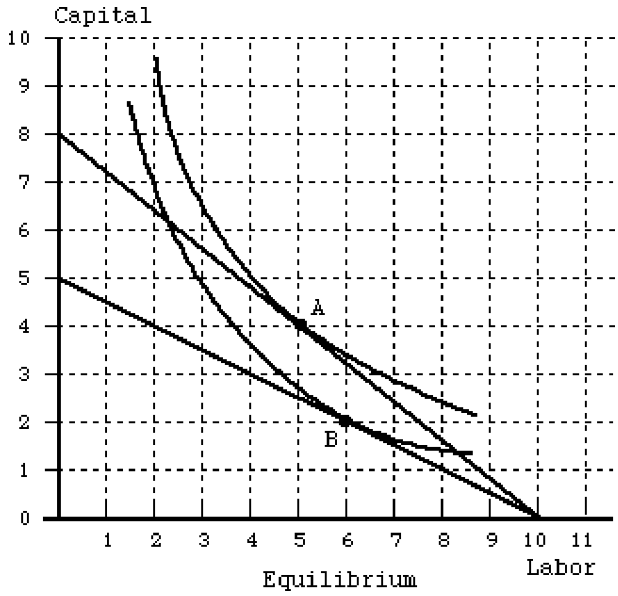
12. Refer to the isocost lines graph. Which of the following shifts represents an increase in the rental price of capital?

    A. Line A to Line B
    B. Line B to Line A
    C. Line C to Line D
    D. Line D to Line C

13. Refer to the isocost lines graph. Which of the following shifts represents an increase in total cost while the rental price of capital and the wage rate of labor are constant?

    A. Line A to Line B
    B. Line B to Line C
    C. Line C to Line B
    D. Line D to Line B

Use the following graph to answer the question(s) below.



14. Refer to the equilibrium graphs. What is the marginal rate of technical substitution at point A?

A. 1.25
B. 0.80
C. 0.50
D. None of the above.

15. Refer to the equilibrium graph. If total cost is $80 at point A, what are the rental price of capital (r) and the wage rate of labor (w)?

A. r = $10 and w = $8
B. r = $8 and w = $10
C. r = $5 and w = $4
D. None of the above.

16. Refer to the equilibrium graph. The change from point A to point B is the result of _____. It causes the capital to labor ratio to _____.

A. an increase in the wage rate of labor; increase
B. an increase in the wage rate of labor; decrease
C. an increase in the rental price of capital; increase
D. an increase in the rental price of capital; decrease

17. The point of inflection on the total product curve corresponds to the level of output where

A. marginal product becomes negative.
B. average product is at a maximum.
C. marginal product is at a maximum.
D. All of the above are correct.

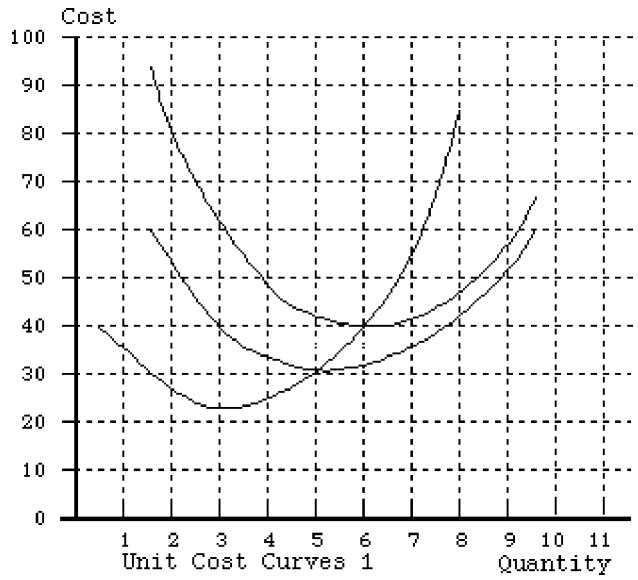
18. The marginal revenue product of labor for a firm

    A. will increase if the price of the firm's output increases.
    B. is the firm's demand curve for labor.
    C. will decrease if the firm hires more labor while the price of output remains unchanged.
    D. All of the above are correct.

19. A line that connects all points where the marginal rate of technical substitution is equal to the ratio of input prices is called the

    A. input demand curve.
    B. total product curve.
    C. expansion path.
    D. isocost line.

Use the following graph to answer the question(s) below.



20. Refer to the graph of unit cost curves 1. If the market price is 35, then a profit-maximizing competitive firm with these short-run unit cost curves

    A. will not produce any output.
    B. will produce output and will make economic losses.
    C. will produce output and will make an economic profit of zero.
    D. will produce output and will make economic profits.

21. Refer to the graph of unit cost curves 1. If the market price is 25, then a profit-maximizing competitive firm with these short-run unit cost curves

    A. will not produce any output.
    B. will produce output and will make economic losses.
    C. will produce output and will make an economic profit of zero.
    D. will produce output and will make economic profits.

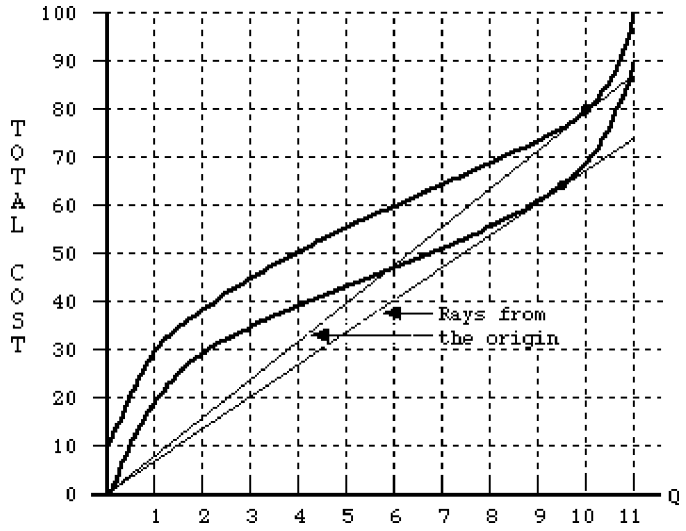
22. Refer to the graph of unit cost curves 1. If the market price is 40, then a profit-maximizing competitive firm with these short-run unit cost curves

    A. will not produce any output.
    B. will produce output and will make economic losses.
    C. will produce output and will make an economic profit of zero.
    D. will produce output and will make economic profits.

23. Refer to the graph of unit cost curves 1. If the market price is 45, then a profit-maximizing competitive firm with these short-run unit cost curves

    A. will not produce any output.
    B. will produce output and will make economic losses.
    C. will produce output and will make an economic profit of zero.
    D. will produce output and will make economic profits.

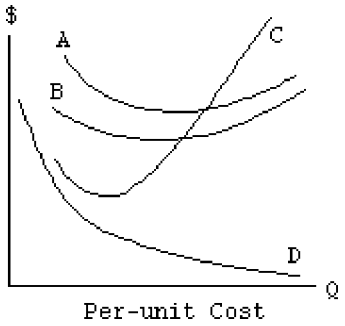
Use the following graph to answer the question(s) below.



24. Refer to the graph of the short-run total cost and total variable cost curves. At what level of output is marginal cost equal to average total cost?

    A. 9.5
    B. 10
    C. 11
    D. None of the above.

Use the following graph to answer the question(s) below.



25. Refer to the short-run per-unit cost curves graph. Which of the four curves represents average variable cost?

A. Curve A
B. Curve B
C. Curve C
D. Curve D