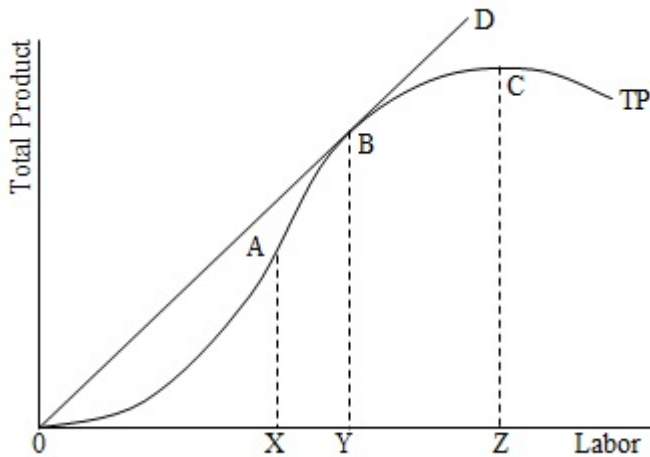


MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

- 1) The short run is defined as a period in which 1) _____
A) the firm cannot change its output level.
B) all inputs are variable but technology is fixed.
C) input prices are fixed.
D) at least one resource is fixed.
- 2) Refer to the graph below. 2) _____

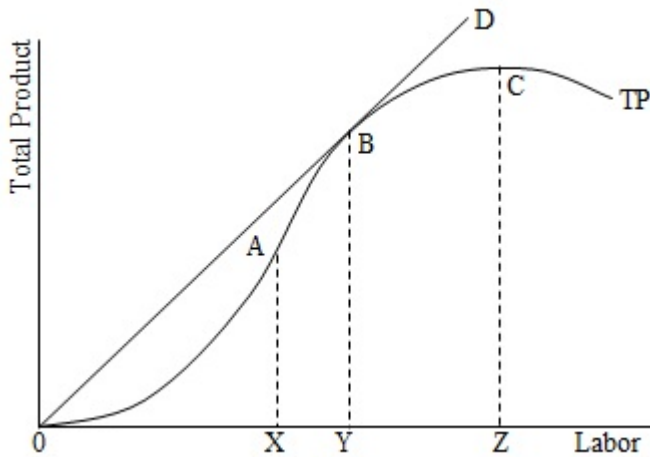


The "zone of production" consists of labor inputs over the range of

- A) 0X. B) YZ. C) 0Y. D) XZ.

3) Refer to the graph below.

3) _____

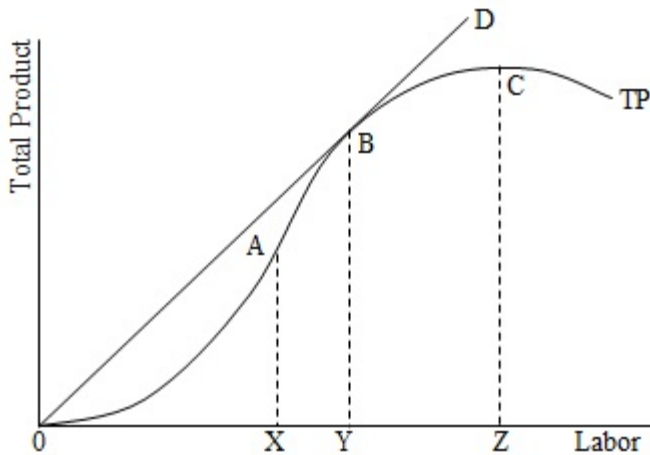


The slope of line segment OD can be interpreted as the

- A) total product of labor at Y.
- B) average product of labor at Y.
- C) value of labor's marginal product at Y.
- D) greatest possible marginal product of labor.

4) Refer to the graph below.

4) _____

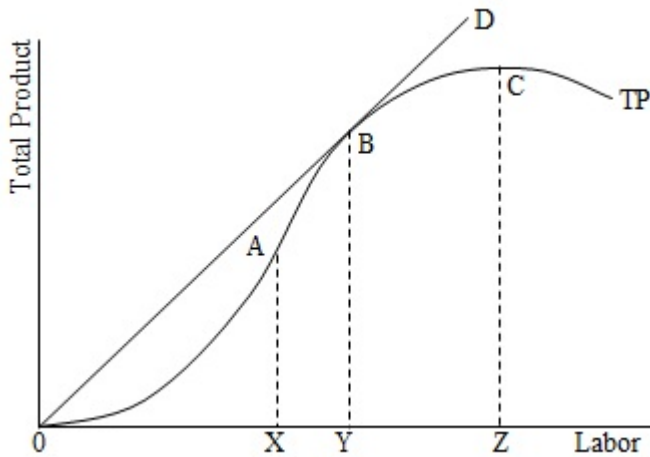


The slope of line segment OD can be interpreted as the

- A) marginal product of labor at Y.
- B) total product of labor over the range 0Y.
- C) value of labor's marginal product at Y.
- D) the greatest possible total product of labor.

5) Refer to the graph below.

5) _____

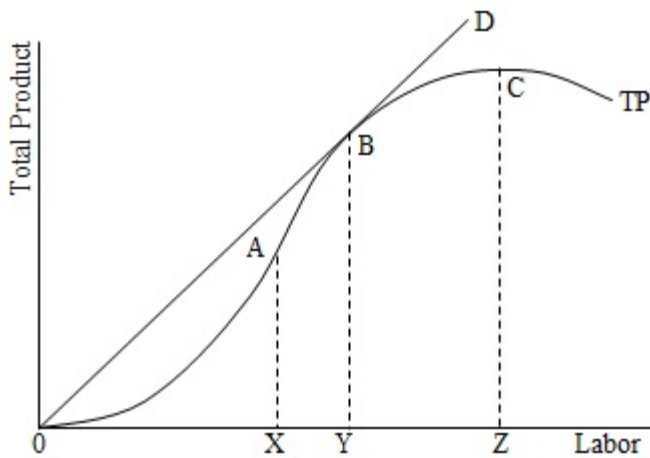


For labor input levels between X and Y,

- A) the marginal product of labor is falling, but is greater than the average product of labor.
- B) both the marginal product and the average product of labor are falling.
- C) the marginal product of labor is rising and the average product of labor is falling.
- D) both the marginal product and the average product of labor are rising.

6) Refer to the graph below.

6) _____

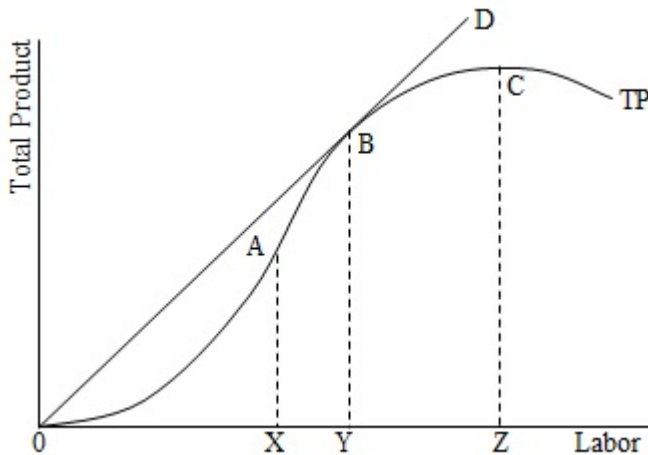


The "law of diminishing marginal returns" begins to take effect at labor input level

- A) 0.
- B) X.
- C) Y.
- D) Z.

7) Refer to the graph below.

7) _____



At labor input Z, labor's

- A) average product is maximized.
- B) marginal product is maximized.
- C) marginal product is zero.
- D) total product is zero.

8) In stage I of the production function, increases in the amount of labor will

8) _____

- A) increase the average productivity of both capital and labor.
- B) increase the average productivity of capital but not labor.
- C) increase the average productivity of labor but not capital.
- D) decrease the average productivity of both capital and labor.

9) A competitive firm will never choose to operate in stage(s)

9) _____

- A) I or II.
- B) I or III.
- C) II or III.
- D) III only.

10) Which of the following best describes the "law of diminishing marginal returns"?

10) _____

- A) The marginal product of labor is negative.
- B) Output per worker must eventually fall.
- C) As more labor is added to a fixed stock of capital, total output must eventually fall.
- D) As more labor is added to a fixed stock of capital, labor's marginal product must eventually fall.

11) Which of the following equalities holds when the profit-maximizing quantity of labor is employed in the short run?

11) _____

- A) $MRP = MWC$
- B) $MP = \text{wage rate}$
- C) $MRP = AP$
- D) $MRP = 0$

- 12) The short-run labor demand curve of a competitive firm is 12) _____
- A) its average revenue product curve.
 - B) its marginal revenue product curve, provided marginal product is below average product.
 - C) its marginal product curve.
 - D) stage II of the total product curve.

- 13) Value of marginal product (VMP) differs from marginal revenue product (MRP) in that 13) _____
- A) MRP measures the value society places on the next worker's output, while VMP measures the value the firm places on the next worker's output.
 - B) VMP measures the value society places on the next worker's output, while MRP measures the value the firm places on the next worker's output.
 - C) MRP always exceeds VMP.
 - D) VMP always exceeds MRP.

- 14) Refer to the following table. 14) _____

Labor	Output	Price (D ₁)	Price (D ₂)
0	0	\$10.00	\$10.00
1	16	10.00	9.50
2	31	10.00	9.00
3	45	10.00	8.50
4	58	10.00	7.50
5	69	10.00	6.50
6	78	10.00	5.50

Assume that the labor market is perfectly competitive. Suppose the firm's product demand is given by the column labeled D₁. If the wage rate is \$100, the firm will achieve maximum profit by hiring _____ workers.

- A) 3
- B) 4
- C) 5
- D) 6

15) Refer to the following table.

15) _____

Labor	Output	Price (D ₁)	Price (D ₂)
0	0	\$10.00	\$10.00
1	16	10.00	9.50
2	31	10.00	9.00
3	45	10.00	8.50
4	58	10.00	7.50
5	69	10.00	6.50
6	78	10.00	5.50

Assume that the labor market is perfectly competitive. Suppose the firm's product demand is given by the column labeled D₁. If the wage rate rises from \$100 to \$135, the firm will reduce the quantity of labor employed by _____ unit(s).

- A) 0 B) 1 C) 2 D) 3

16) Refer to the following table.

16) _____

Labor	Output	Price (D ₁)	Price (D ₂)
0	0	\$10.00	\$10.00
1	16	10.00	9.50
2	31	10.00	9.00
3	45	10.00	8.50
4	58	10.00	7.50
5	69	10.00	6.50
6	78	10.00	5.50

Assume that the labor market is perfectly competitive. Suppose the firm's product demand is given by the column labeled D₁. If the wage rate is \$125, the firm will achieve maximum profit by hiring _____ workers.

- A) 3 B) 4 C) 5 D) 6

17) Refer to the following table.

17) _____

Labor	Output	Price (D ₁)	Price (D ₂)
0	0	\$10.00	\$10.00
1	16	10.00	9.50
2	31	10.00	9.00
3	45	10.00	8.50
4	58	10.00	7.50
5	69	10.00	6.50
6	78	10.00	5.50

Assume that the labor market is perfectly competitive. Suppose the firm's product demand is given by the column labeled D₁. The value of the marginal product of the fourth worker is

- A) \$10. B) \$58. C) \$130. D) \$580.

18) Refer to the following table.

18) _____

Labor	Output	Price (D ₁)	Price (D ₂)
0	0	\$10.00	\$10.00
1	16	10.00	9.50
2	31	10.00	9.00
3	45	10.00	8.50
4	58	10.00	7.50
5	69	10.00	6.50
6	78	10.00	5.50

Assume that the labor market is perfectly competitive. Suppose the firm's product demand is given by the column labeled D₂. If the wage rate is \$100, the firm will achieve maximum profit by hiring _____ workers.

- A) 2 B) 3 C) 4 D) 5

19) Refer to the following table.

19) _____

Labor	Output	Price (D ₁)	Price (D ₂)
0	0	\$10.00	\$10.00
1	16	10.00	9.50
2	31	10.00	9.00
3	45	10.00	8.50
4	58	10.00	7.50
5	69	10.00	6.50
6	78	10.00	5.50

Assume that the labor market is perfectly competitive. Suppose the firm's product demand is given by the column labeled D₂. The extra revenue generated by the second worker is

- A) \$1. B) \$58. C) \$127. D) \$435.

20) Refer to the following table.

20) _____

Labor	Output	Price (D ₁)	Price (D ₂)
0	0	\$10.00	\$10.00
1	16	10.00	9.50
2	31	10.00	9.00
3	45	10.00	8.50
4	58	10.00	7.50
5	69	10.00	6.50
6	78	10.00	5.50

Assume that the labor market is perfectly competitive. Suppose the firm's product demand is given by the column labeled D₂. If the wage rate rises from \$100 to \$130, the firm will reduce the quantity of labor employed by _____ unit(s).

- A) 0 B) 1 C) 2 D) 3

21) Refer to the following table.

21) _____

Labor	Output	Price (D ₁)	Price (D ₂)
0	0	\$10.00	\$10.00
1	16	10.00	9.50
2	31	10.00	9.00
3	45	10.00	8.50
4	58	10.00	7.50
5	69	10.00	6.50
6	78	10.00	5.50

Assume that the labor market is perfectly competitive. Compared to a firm facing D₁, a firm facing demand schedule D₂ but paying the same wage will hire

- A) the same number of workers, since total product is the same in both instances.
- B) fewer workers, since product price declines as output increases.
- C) more workers, since product price declines as output increases.
- D) More information is required.

22) The marginal revenue product schedule

22) _____

- A) measures the increase in total revenue that results from the production of one more unit.
- B) measures the decline in product price that a firm must accept in order to sell the extra output of one more worker.
- C) is the same whether the firm is selling in a purely competitive or imperfectly competitive market.
- D) is the firm's labor demand schedule, provided the firm is operating in the zone of production.

23) Refer to the following table.

23) _____

Labor	Output	Price
0	0	\$2.20
1	16	2.00
2	31	1.80
3	45	1.60
4	58	1.40
5	69	1.20
6	78	1.00

Assume that the labor market is perfectly competitive. If the wage is \$18.00, how many workers will this profit-maximizing firm choose to employ?

- A) 2
- B) 3
- C) 4
- D) 5

24) Refer to the following table.

24) _____

Labor	Output	Price
0	0	\$2.20
1	16	2.00
2	31	1.80
3	45	1.60
4	58	1.40
5	69	1.20
6	78	1.00

Assume that the labor market is perfectly competitive. What are the values of marginal pr and the marginal revenue product, respectively, for the third worker?

- A) 15, \$15.00 B) 45, \$72.00 C) 14, \$22.40 D) 15, \$24.00

25) Refer to the following table.

25) _____

Labor	Output	Price
0	0	\$2.20
1	16	2.00
2	31	1.80
3	45	1.60
4	58	1.40
5	69	1.20
6	78	1.00

Assume that the labor market is perfectly competitive. If the wage is \$11.00, how many workers will this profit-maximizing firm choose to employ?

- A) 2 B) 3 C) 4 D) 5

26) Refer to the following table.

26) _____

Labor	Output	Price
0	0	\$2.20
1	16	2.00
2	31	1.80
3	45	1.60
4	58	1.40
5	69	1.20
6	78	1.00

Assume that the labor market is perfectly competitive. Rather than the product demand schedule shown in the table, suppose this firm sold its output competitively for a price of \$2.50. In this case, how many workers will this profit-maximizing firm choose to employ at a wage of \$25.00?

- A) 2 B) 3 C) 4 D) 5

27) "The extra output, measured in dollars, that accrues to society when an additional unit of labor is employed" best describes 27) _____

- A) marginal product. B) marginal revenue product.
C) value of marginal product. D) total revenue product.

28) For a firm selling output in an imperfectly competitive market, its labor demand curve will 28) _____

- A) reflect the value of marginal product schedule, provided the firm is operating in the zone of production.
B) decline solely because of diminishing marginal productivity.
C) decline because of diminishing marginal productivity and because product price declines as output increases.
D) be perfectly elastic if the firm is hiring labor competitively.

29) All else equal, the imperfectly competitive seller's labor demand curve is 29) _____

- A) greater than that of a perfectly competitive seller.
B) more elastic than that of a perfectly competitive seller.
C) less elastic than that of a perfectly competitive seller.
D) the same as that of a perfectly competitive seller.

30) Compared to an otherwise identical competitive firm, a firm with monopoly power will hire 30) _____

- A) fewer workers, reflecting its decision to produce less output.
B) more workers, because the higher price charged by the monopoly raises its MRP.
C) fewer workers, because workers are less productive in a monopoly setting.
D) more workers, because monopolies have higher profits and can pay higher wages.

- 31) Which of the following best describes the output effect of a wage increase? 31) _____
- A) The firm's marginal cost increases, the firm desires to produce less output, and therefore less labor is required.
 - B) The cost of labor is relatively higher, causing the firm to use relatively less labor.
 - C) The firm's marginal cost falls, the firm desires to produce more output, and therefore more labor is required.
 - D) The firm's labor demand curve becomes more inelastic, causing it to employ less labor.
- 32) Which of the following best describes the substitution effect of a wage increase? 32) _____
- A) The firm's marginal cost increases, the firm desires to produce less output, and therefore less labor is required.
 - B) The cost of labor is relatively higher, causing the firm to use relatively less labor.
 - C) The firm's labor demand curve becomes less elastic, causing it to employ less labor.
 - D) The firm's labor demand curve becomes more elastic, causing it to employ less labor.
- 33) Which of the following best describes the output effect of a wage decrease? 33) _____
- A) The firm's marginal cost increases, the firm desires to produce less output, and therefore less labor is required.
 - B) The cost of labor is relatively higher, causing the firm to use relatively less labor.
 - C) The firm's marginal cost falls, the firm desires to produce more output, and therefore more labor is required.
 - D) The firm's labor demand curve becomes more inelastic, causing it to employ less labor.
- 34) Which of the following best describes the substitution effect of a wage decrease? 34) _____
- A) The firm's marginal cost decreases, the firm desires to produce less output, and therefore less labor is required.
 - B) The cost of labor is relatively lower, causing the firm to use relatively more labor.
 - C) The firm's labor demand curve becomes less elastic, causing it to employ less labor.
 - D) The firm's labor demand curve becomes more inelastic, causing it to employ less labor.
- 35) Compared to the long-run labor demand curve, the firm's short-run curve is typically 35) _____
- A) less elastic.
 - B) the same.
 - C) more elastic.
 - D) more elastic only if labor and capital are gross complements.

- 36) The long-run labor demand curve incorporates 36) _____
- A) the substitution effect only.
 - B) the output effect only.
 - C) neither the substitution effect nor the output effect.
 - D) both the substitution effect and the output effect.
- 37) In the long run, the substitution effect of a lower wage 37) _____
- A) increases the quantity of labor demanded, while the output effect reduces it.
 - B) decreases the quantity of labor demanded, while the output effect increases it.
 - C) and the output effect both increase the quantity of labor demanded.
 - D) and the output effect both reduce the quantity of labor demanded.
- 38) The long-run response to a drop in the wage exceeds the short-run response for all of the 38) _____ following reasons *except*
- A) it is more difficult to substitute capital for labor in the long run than the short run.
 - B) an increase in labor makes capital more productive, leading to more capital and therefore higher labor productivity.
 - C) the demand for the firm's output is more elastic in the long run.
 - D) technology may change in the long run.
- 39) "To find the market demand curve for a particular type of labor, simply sum the labor 39) _____ demand curves of all employers of that type of labor." This statement is
- A) true.
 - B) false-sum the value of marginal product curves for the firms to account for changes in wage rates as employment increases.
 - C) false-sum the value of marginal product curves for the firms to account for changes in output price as production increases.
 - D) false-although the price of output for any individual firm may be constant, this may not be the case for all firms taken collectively.
- 40) When deriving the market demand curve for a particular type of labor, one must 40) _____
- A) hold the market price of the output constant.
 - B) simply sum the labor demand curves of all employers of that type of labor.
 - C) account for the variation in market price as industry output expands.
 - D) hold constant the market price in competitive markets but allow the price to vary in monopoly markets.
- 41) The market wage increases from \$9 to \$11 and the firm responds by reducing its labor 41) _____ force by 16%. The wage elasticity coefficient is
- A) 8, indicating elastic demand.
 - B) 0.8, indicating inelastic demand.
 - C) 1.2, indicating elastic demand.
 - D) 1.6, indicating elastic demand.

- 42) Suppose that, as a result of a decrease in the market supply of labor, the wage rate has risen 10%. After adjusting its employment level, a firm finds its total wage bill has decreased. This occurrence indicates that the firm's labor demand 42) _____
- A) is inelastic over this range of wages.
 - B) is elastic over this range of wages.
 - C) is unit elastic over this range of wages.
 - D) was inelastic at the old wage, but is elastic at the new, higher wage.
- 43) Suppose that, as a result of an increase in the market supply of labor, the wage rate has fallen 10%. After adjusting its employment levels, a firm finds its total wage bill has decreased. This occurrence indicates that the firm's labor demand 43) _____
- A) is inelastic over this range of wages.
 - B) is elastic over this range of wages.
 - C) is unit elastic over this range of wages.
 - D) was inelastic at the old wage, but is elastic at the new, lower wage.
- 44) A union leader told its membership that a wage increase, while resulting in some layoffs, would nonetheless increase the total incomes of its membership. The firm replied that a wage increase would reduce the total incomes of its membership. We can conclude that 44) _____
- A) both the firm and the union believe that labor demand is inelastic, but for different reasons.
 - B) both the firm and the union believe that labor demand is elastic, but for different reasons.
 - C) the union believes that labor demand is elastic, while the firm believes it to be inelastic.
 - D) the union believes that labor demand is inelastic, while the firm believes it to be elastic.
- 45) In comparing two otherwise identical industries X and Y, an economist finds that labor demand is more elastic in industry X. Which of the following would support this finding? 45) _____
- A) Capital and labor are less easily substituted for one another in X than in Y.
 - B) Labor costs as a percentage of total costs are relatively lower in X than in Y.
 - C) Product demand elasticity is higher in X than in Y.
 - D) Substitute resources have a less elastic supply in X than in Y.
- 46) In comparing two otherwise identical industries X and Y, an economist finds that labor demand is less elastic in industry X. Which of the following would support this finding? 46) _____
- A) Capital and labor are less easily substituted for one another in X than in Y.
 - B) Labor costs as a percentage of total costs are relatively higher in X than in Y.
 - C) Product demand elasticity is higher in X than in Y.
 - D) Substitute resources have a more elastic supply in X than in Y.

- 47) In his comparison of over 100 studies of labor demand, Hamermesh concludes the overall long-run elasticity of labor demand in the United States to be 47) _____
A) .4. B) 1.0. C) -2.0. D) 1.4.
- 48) Which of the following can be predicted to increase the demand for labor? 48) _____
A) an increase in the price of a gross complement to labor
B) a decrease in the price of a gross substitute for labor
C) a decrease in the number of firms
D) an increase in product demand
- 49) Which of the following can be predicted to increase the demand for labor? 49) _____
A) an increase in the price of a gross substitute for labor
B) an increase in the price of a pure complement to labor
C) a decrease in product demand
D) an increase in the price of another resource, provided the output effect exceeds the substitution effect
- 50) Assume that skilled labor and energy are substitutes in production. An increase in energy prices is then predicted to 50) _____
A) unambiguously increase the demand for skilled labor.
B) unambiguously decrease the demand for skilled labor.
C) increase the demand for skilled labor if the output effect outweighs the substitution effect.
D) decrease the demand for skilled labor if the output effect outweighs the substitution effect.
- 51) If energy and unskilled labor are gross complements, an increase in the price of energy will 51) _____
A) increase the supply of unskilled labor, decreasing the unskilled wage.
B) increase the demand for unskilled labor, raising the unskilled wage.
C) decrease the demand for unskilled labor, decreasing the unskilled wage.
D) either increase or decrease the demand for unskilled labor, depending on the relative strengths of the output effect and the substitution effect.
- 52) Skilled labor will benefit from an increase in the wage rate paid to unskilled labor if 52) _____
A) the substitution effect outweighs the output effect.
B) the output effect outweighs the substitution effect.
C) the output effect and substitution effect work in opposite directions.
D) skilled labor and unskilled labor are gross complements.

- 53) In the textile industry, industrial robots and assembly line workers are gross substitutes. 53) _____
Accordingly, the drop in the price of robots has
A) decreased the demand for robots.
B) increased the demand for assembly line workers.
C) decreased the demand for assembly line workers.
D) increased assembly line workers' wages.
- 54) Suppose that the decline in prices of personal computers has reduced the demand for 54) _____
labor at a particular firm. We may conclude that at this firm
A) computers and labor are pure complements.
B) computers and labor are gross complements but not pure complements.
C) computers and labor are gross substitutes.
D) computers and labor are perfect substitutes.
- 55) The contingent work force 55) _____
A) has grown about 4 times as fast as the rest of the work force over the last two
decades.
B) includes only temporary workers.
C) includes only workers who are involuntarily employed part-time.
D) has shrunk relative to the "core" labor force.
- 56) Since 1980, the number of jobs in manufacturing has 56) _____
A) increased, reversing a downward trend that had started in 1950.
B) decreased, reflecting in part the reduced productivity of manufacturing workers.
C) decreased, reflecting in part the reduction in the labor force participation rate of
older males and the drop in their real wages.
D) decreased, reflecting in part the increased reliance of manufacturing on workers
from temporary help agencies.
- 57) International trade 57) _____
A) increases labor demand in some industries and reduces it in others.
B) reduces the overall demand for labor.
C) increases the overall demand for labor.
D) has no impact on labor demand at all.
- 58) In which occupations does the Bureau of Labor Statistics project the fastest employment 58) _____
growth over the next ten years?
A) real estate and finance
B) fast food preparation and legal services
C) maintenance and law enforcement
D) health care and construction