

MICROECONOMICS EXAM REVIEW

CHAPTERS 8 THROUGH 12, 16, 17 AND 19

Key Terms and Concepts to Know

CHAPTER 8 - PERFECT COMPETITION

I. An Introduction to Perfect Competition

A. Perfectly Competitive Market Structure:

- Has many buyers and sellers.
- Sells a commodity or standardized product.
- Has buyers and sellers who are fully informed.
- Has firms and resources that are freely mobile.
- Perfectly competitive firm is a price taker; one firm has no control over price.

B. Demand Under Perfect Competition: Horizontal line at the market price

II. Short-Run Profit Maximization

A. Total Revenue Minus Total Cost: The firm maximizes economic profit by finding the quantity at which total revenue exceeds total cost by the greatest amount.

B. Marginal Revenue Equals Marginal Cost in Equilibrium

- Marginal Revenue: The change in total revenue from selling another unit of output:
- $MR = \Delta TR / \Delta q$
- In perfect competition, marginal revenue equals market price.
- Market price = Marginal revenue = Average revenue
- The firm increases output as long as marginal revenue exceeds marginal cost.
- Golden rule of profit maximization. The firm maximizes profit by producing where marginal cost equals marginal revenue.

C. Economic Profit in Short-Run: Because the marginal revenue curve is horizontal at the market price, it is also the firm's demand curve. The firm can sell any quantity at this price.

III. Minimizing Short-Run Losses

The short run is defined as a period too short to allow existing firms to leave the industry. The following is a summary of short-run behavior:

A. Fixed Costs and Minimizing Losses: If a firm shuts down, it must still pay fixed costs. A firm produces if total revenue exceeds the variable cost of production.

- B. Marginal Cost Equals Marginal Revenue:** The firm produces rather than shuts down if there is some rate of output where the price at least covers average variable cost. This minimizes the short-run loss.
- C. Shutting Down in the Short Run:** Shut down if average variable cost exceeds price at all rates of output since this minimizes loss.
- D. Fixed costs are a sunk cost in the short run**

IV. The Firm and Industry Short-Run Supply Curves

- A. Short-Run Firm Supply Curve:** That portion of a firm's marginal cost curve that intersects and rises above the low point on its average variable cost curve.
- B. Short-Run Industry Supply Curve:** Sums horizontally each firm's short-run supply curve.
- C. Firm Supply and Market Equilibrium:** Each perfectly competitive firm selects the short-run output that maximizes profit or minimizes loss.

V. Perfect Competition in the Long Run

- Zero Economic Profit in the Long Run: or exit of firms drives economic profit to zero so firms earn only a normal profit.

A. The Long-Run Adjustment to a Change in Demand

- Effects of an Increase in Demand: Increase in demand results in an increase in market price. This draws new firms to enter the market which causes supply to increase pushing prices down.
- Effects of a Decrease in Demand: Decrease in demand results in a decrease in market prices.
- Market output falls. Short-run losses will eventually drive firms out of industry causing a reduction in supply.

VI. The Long-Run Industry Supply Curve: Shows the relationship between price and quantity supplied once firms fully adjust to any short-term economic profit or loss resulting from a change in demand.

- A. Constant-Cost Industries:** Horizontal supply curve; resource prices and other production costs remain constant as output expands.
- B. Increasing-Cost Industries:** Upward-sloping supply curve; resource prices and other production costs increase as output expands.

VII. Perfect Competition and Efficiency

- A. Productive Efficiency: Making Stuff Right:** Produce output at the minimum of the long-run average cost curve. Making stuff right but maybe making the wrong stuff
- B. Allocative Efficiency: Making the Right Stuff** Produce the output that consumers value most. Produce where marginal benefit equals marginal cost. Not only making stuff right but making the right stuff.
- C. What's So Perfect About Perfect Competition?**
 - Gains from voluntary exchange through competitive markets:
 - Consumer Surplus: Most consumers would be willing and able to pay for each good exceeds what they actually do pay.
 - Producer Surplus: Total revenue minus variable costs.

CHAPTER 9 – MONOPOLY

I. Barriers to Entry: Restrictions on entry of new firms into an industry.

A. Legal Restrictions

- **Patents and Invention Incentives:** A patent awards exclusive right to produce a good or service for 20 years.
- **Licenses and Other Entry restrictions:** The government sometimes confers monopoly rights.

B. Economies of Scale: Natural monopolies emerge from the nature of costs.

- Downward-sloping long-run average cost curve.
- A single firm can satisfy market demand at a lower average cost per unit than could two or more firms.

C. Control of Essential Resources: Source of monopoly power is a firm's control over some resource critical to production. Barriers to entry include:

- A unique experience can lead to monopoly profits.
- Local monopolies are most common.
- Long-lasting monopolies are rare.

II. Revenue for the Monopolist

A. Demand, Average Revenue, and Marginal Revenue: the demand curve for the monopolist's output slopes downward; the demand curve is also the monopolist's average revenue curve.

B. The Gains and Loss from Selling One More Unit: additional units lead to a gain from selling one more unit but also a loss from lowering price on all units sold. Thus, marginal revenue is less than price.

C. Revenue Schedules: As output increases, total revenue increases, reaches a maximum and then declines.

- Marginal revenue: As price declines, marginal revenue falls because:
- The amount of revenue received from selling an additional unit declines.
- The revenue forgone by selling all units at this lower price grows.

D. Revenue Curves: Total revenue reaches a maximum where marginal revenue is zero.

- **Where demand is elastic**
 - Where demand is elastic:
 - Marginal revenue is positive.
 - Total revenue increases as price falls.
- **Where demand is inelastic:**
 - Marginal revenue is negative.
 - Total revenue decreases as price falls.

III. The Firm's Costs and Profit Maximization:

A. Profit Maximization:

- **Total Revenue Minus Total Cost:** Production rate where total revenue exceeds total cost by the greatest amount.
- Marginal Revenue Equals Marginal Cost

- **Graphical Solution:** The profit-maximizing rate of output is found where the upward-sloping marginal cost curve intersects the marginal revenue curve. The price the monopolist can charge is limited by consumer demand.
- B. Short-Run Losses and the Shutdown Decision:** Continue producing if the price is greater than average variable cost. Shutdown if the price does not cover average variable cost.
- C. Long-Run Profit Maximization:** Barriers to entry can allow economic profit to persist in the long run.

IV. Monopoly and the Allocation of Resources

- A. Price and Output Under Perfect Competition:** Marginal benefit that consumers derive from a good equals the marginal cost of producing that good. The market is allocatively efficient and maximizes social welfare.
- B. Price and Output Under Monopoly:** While producing to maximize profit where marginal cost equals marginal revenue, the monopolist charges a higher price and supplies less output than a perfect competitor. Consumer surplus still exists, only in smaller amounts. Social welfare is not maximized.
- C. Allocative and Distributive Effects:** Consumer surplus is smaller under monopoly. Some of this loss in consumer surplus is redistributed to the monopolist, but some is a deadweight loss, or welfare loss, that is gained by no one.

V. Problems Estimating the Deadweight Loss of Monopoly

- A. Why the Deadweight Loss of Monopoly Might Be Lower:** Monopolists might be able to produce output at a lower cost than competitive firms. However, fear of public scrutiny and political pressure may not let monopoly price rise as high as it could.
- B. Why the Deadweight Loss of Monopoly Might Be Higher:** Resources used by the monopolist to secure and maintain a monopoly position may create more of a welfare loss than simple models suggest. Insulated from competition, the monopolist may become inefficient.

VI. Price Discrimination

Charging different prices for the same output to different groups of consumers.

- A. Conditions for Price Discrimination:** The monopolist must:
- Be a price maker.
 - Identify at least two classes of consumers with different price elasticities of demand.
 - Be able, at little cost, to charge each group a different price for essentially the same product.
 - Have a way to prevent those consumers charged the lower price from reselling to those who pay the higher price.
- B. A Model of Price Discrimination:** Profit is maximized by charging a lower price to the group with the more elastic demand.
- C. Perfect Price Discrimination: The Monopolist's Dream**
- Charge a different price for each unit of a good.
 - Converts every dollar of consumer surplus into economic profit.

CHAPTER 10 - MONOPOLISTIC COMPETITION AND OLIGOPOLY

I. Monopolistic Competition:

Characteristics of Monopolistic Competition:

A market structure characterized by a large number of firms selling products that are close substitutes, yet different enough that each firm's demand curve slopes downward. Each supplier is a price maker. Barriers to entry are low and firms can enter or leave the industry in the long run. Sellers also behave competitively.

A. Product Differentiation

- Physical Differences: Physical appearance and qualities.
- Location: The number and variety of locations where product is available.
- Services: Accompanying services provided.
- Product Image: Image producer tries to convey the product's quality to the buyer.

B. Short-Run Profit Maximization or Loss Minimization: Elasticity of demand for a monopolistic competitor depends on the number of rival firms and the firm's ability to differentiate its product.

- **Marginal Revenue Equals Marginal Cost:** Monopolistic competition maximizes profit in the short run just as a monopolist does. Profit maximizing quantity is where marginal revenue equals marginal cost; the profit-maximizing price for that quantity is found on the demand curve.
- **Maximizing Profit or Minimizing Loss in the Short Run:** As long as the price is at or above the average variable cost, the firm should produce in the short run.

C. Zero Economic Profit in the Long Run: Because market entry is easy, monopolistically competitive firms earn zero economic profit in the long run. Monopolistically competitive firms spend large amounts on advertising, which contributes to an increase in average costs.

- Monopolistic Competition is like monopoly in that they both face downward sloping demand curves.
- Monopolist Competition is like perfect competition in the sense they are both easy to enter and exit that eliminate economic profit in the long run.

D. Monopolistic Competition and Perfect Competition Compared:

If the two types of firms have the same cost curves, the monopolistic competitor produces less and charges more than the perfect competitor, exhibiting excess capacity in the long run.

II. An Introduction to Oligopoly:

Varieties of Oligopoly: An industry characterized by just a few firms whose behavior is interdependent. In some industries the product is identical or undifferentiated; in others, it is differentiated across producers.

- **Undifferentiated Oligopolies:** Sells a commodity.
- **Differentiated Oligopolies:** Sells products that differ across producers.

A. Economies of Scale: If a firm's minimum efficient scale is relatively large compared to industry output, only a few firms are needed to satisfy industry demand.

B. High Cost of Entry: High start-up costs and established brand names deter new entrants.

C. Crowding Out the Competition: Multiple products from the same brand crowd out new entrants.

III. Three Approaches to Oligopoly:

Because oligopolists are interdependent, no one general theory of oligopoly explains their behavior, but several theories have been developed.

A. Collusion and Cartels:

- Collusion is an agreement among firms in the industry to divide the market and to fix the price.
- A cartel is a group of firms that agree to collude, thus they act as a monopoly.
- Effective functioning of a cartel is complicated by:
 - Differences in Cost: If average costs differ across firms, output allocation that maximizes cartel profit yields unequal profits for cartel members.
 - Number of Firms in the Cartel: Consensus becomes harder to achieve as the number of firms in the cartel grows.
 - New Entry into the Industry: New entrants increase market supply, thus driving prices down. Therefore, a cartel's success depends on barriers that block entry of new firms.
 - Cheating: Powerful temptation to cheat on agreement undermines cartels.
 - OPEC's Spotty History
 - International Crackdown on Cartels

B. Price Leadership: A price leader is a firm whose price is adopted by the rest of the industry. Obstacles include:

- violates U.S. antitrust laws
- the greater the product differentiation, the less effective price leadership is
- no guarantee other firms will follow
- profitable prices attract new entrants so barriers to entry are needed
- temptation to cheat

C. Game Theory:

Game theory is a model that analyzes oligopolistic behavior as a series of strategic moves and counter-moves by rival firms.

- Prisoner's Dilemma: a game that shows why players have difficulty cooperating even when both players would benefit from cooperation.
- Cola War Game Example
- Strategy: In game theory, the operational plan pursued by a player.
- Payoff matrix: In game theory, a table listing the payoffs that each player can expect based on the combination of strategies that each player pursues.
- Dominant-strategy equilibrium: the outcome achieved when each player's choice does not depend on what she or he thinks the other player will do.
- Price-Setting Game: Applies the prisoner's dilemma to pricing strategies.
- One-shot versus repeated games
- One-shot: Prisoner's dilemma strategy.
- Repeated game: Tit-for-Tat Strategy.
- Coordination Game: Nash equilibrium
- Summary of Oligopoly Models: Each model helps explain a phenomenon observed in oligopolistic markets.

IV. Comparison of Oligopoly and Perfect Competition: There is no single model of the oligopoly.

- Price Is Usually Higher under Oligopoly: Price is usually higher and output lower under an oligopoly.

- Higher Profits under Oligopoly: Profit in the long run should be higher under oligopolies than under perfect competition.

CHAPTER 11 - RESOURCE MARKETS

I. The Once-Over

A. Resource Demand: A firm demands additional units of a resource as long as the marginal revenue generated by that additional unit exceeds its marginal cost.

B. Resource Supply: Resource owners supply their resources to the highest-paying alternative, other things constant.

II. The Demand and Supply of Resources: Differences between the profit-maximizing goals of firms and utility-maximizing goals of households are sorted out through voluntary exchange in markets.

A. The Market Demand for Resources: The demand for a resource is derived from the demand for the product the resource produces.

B. The Market Supply for Resources:

Resource suppliers are more willing and more able to increase quantity supplied as the resource price increases.

III. Temporary and Permanent Resource Price Differences:

As long as nonmonetary benefits are identical and resources are freely mobile, resources adjust across uses until they earn the same in different uses.

A. Temporary Differences in Resource Prices: Some price differences are temporary because they spark shifts of resource supply away from lower-paid uses and toward higher-paid uses.

B. Permanent Differences in Resource Prices: A lack of resource mobility, differences in inherent quality of the resource, differences in time and money involved in developing necessary skills, or nonmonetary differences explain permanent price differences for otherwise similar resources.

IV. Opportunity Cost and Economic Rent:

Opportunity cost is what the resource could earn in its best alternative use. Economic rent is that portion of a resource's total earnings that exceeds the amount necessary to keep the resource in its present use.

A. Resource Market A: All Earnings Are Economic Rent: In a perfectly inelastic market, resources have no alternative use so all earnings are economic rent. Fixed supply determines the equilibrium quantity, but demand determines the equilibrium price.

B. Resource Market B: All Earnings Are Opportunity Costs: In a perfectly elastic market, a resource can earn as much in its best alternative use as in its present use. The horizontal supply curve determines the equilibrium wage, but demand determines the equilibrium quantity.

C. Resource Market C: Earnings Include Both Economic Rent and Opportunity Costs: When the resource supply curve slopes upward, earnings include both economic rent and opportunity costs.

V. A Closer Look at Resource Demand

A. The Firm's Demand for a Resource: As a firm hires more of a resource, the marginal product of that resource declines, reflecting the law of diminishing returns.

B. Marginal Revenue Product: The change in total revenue when an additional unit of a resource is employed, other things constant.

- **Selling Output in Competitive Markets:** Marginal revenue product equals marginal product of the resource multiplied by the product price. Marginal revenue product falls because of diminishing returns.
- **Selling Output with Some Market Power:** Marginal revenue product curve slopes downward both because of diminishing marginal returns and because additional output can be sold only if the price falls.

C. Marginal Resource Cost: The change in total cost when an additional unit of a resource is hired, other things constant. Firms hire more resources as long as doing so adds more to revenue than to cost. Firms stop hiring when $MRP=MRC$.

D. Resource Employment to Maximize Profit or Minimize Loss: The firm hires more labor as long as doing so add more to the revenue than to the cost – that is as long labor's marginal revenue product exceeds its marginal resource cost.

E. Optimal Input and Optimal Output Decisions Are Equivalent: In equilibrium, the marginal rate of output equals the marginal cost.

F. Changes in Resource Demand

- **Change in Other Resources Employed:** Changes in the price of resource substitutes affect demand for resources. If two resources are substitutes, an increase in the price of one increases demand for the other. If two resources are complements, a decrease in the price of one leads to an increase in demand for the other.
- **Changes in Technology:** Technological improvements can enhance the productivity of some resources but make other resources obsolete.
- **Changes in the Demand for the Final Product:** Any change in the demand for output affects resource demand.

G. Optimal Use of More than One Resource: Employers hire each resource up to the point at which the last unit hired adds as much to revenue as to cost.

CHAPTER 12 - LABOR MARKETS AND LABOR UNIONS

I. Labor Supply

A. Labor Supply and Utility Maximization: Two sources of utility are the consumption of goods and services and the enjoyment of leisure.

- **Three Uses of Time:** Market work is time sold in the labor market in return for a wage; nonmarket work is time spent producing your own goods and services, and includes time spent acquiring an education; leisure is time spent on nonwork activities.

- **Work and Utility:** Work is subject to increasing marginal disutility (the more a person works, the greater the marginal disutility or dissatisfaction with working another hour). The net utility of work (the utility of consumption made possible less the disutility of working) makes at least some amount of work utility maximizing.
- **Utility Maximization:** A rational consumer maximizes utility by allocating one's time so the expected marginal utility of the last unit of time spent in each activity is identical.
- **Implications:** When wages are higher, individuals have a greater opportunity cost of leisure and nonmarket work. However, if individuals earn the same wage, those productive in nonmarket work can produce their own goods and services more cheaply than the market can because the opportunity cost is lower.

B. Wages and Individual Labor Supply:

This section develops a model for labor supply during the summer, a beneficial reference for discussion of the substitution and income effects.

- **Substitution and Income Effects:** The substitution effect of a wage increase causes workers to substitute market work for other activities; the income effect of a wage increase causes workers to demand more leisure and reduce the quantity of labor supplied to market work.
- **Backward-Bending Labor Supply Curve:** Occurs because the income effect of a higher wage eventually dominates the substitution effect, reducing the quantity of labor supplied as wages increase.
- **Flexibility of Hours Worked:** Individuals can control many dimensions of quantity of labor supplied.

C. Nonwage Determinants of Labor Supply

- **Other Sources of Income:** An individual's willingness and ability to supply labor depends on other sources of income, such as family, savings, student loans, and scholarships.
- **Nonmonetary Factors:** The more attractive the working conditions, the greater the supply of labor.
- **The Value of Job Experience:** The more a job enhances future earnings possibilities, the greater the supply of labor, other things constant.
- **Taste for Work:** The supply of labor is greater to those jobs a worker likes.
- **Market Supply of Labor:**
- Labor supply to a particular market is the horizontal sum of all individual supply curves.

D. Why Wages Differ

- **Differences in Training, Education, Age, and Experience:** Some jobs pay more because they require more costly training, education and experience, which also affect labor supply; age is often correlated with education and experience.
- **Differences in Ability:** The labor market rewards ability and talent.
- **Differences in Risk:** Riskier jobs pay more, other things constant.
- **Geographic Differences:** People seek markets where wages are higher, other things constant.
- **Job Discrimination:** Racial and gender discrimination affect wages.
- **Union Membership:** Union workers earn more than nonmembers.

III. Unions and Collective Bargaining

A labor union is a group of workers who join together to improve terms of employment.

- A. Types of Unions:** A craft union consists of workers with a particular skill, such as plumbers or carpenters; an industrial union consists of skilled, semiskilled and unskilled workers in an industry, such as all auto workers or all steel workers.
- B. Collective Bargaining, Mediation and Arbitration:**
 - Collective Bargaining: The process by which representatives of union and management negotiate a mutually agreeable labor contract
 - Mediation and Arbitration: A mediator is an impartial observer who listens to differences between union and management separately, then suggests a resolution. Mediators have no power to impose settlement; with binding arbitration, a neutral third party evaluates the position of both management and union and issues a ruling that both parties must accept.
- C. The Strike:** A union's attempt to withhold labor from a firm to stop production.

IV. Union Wages and Employment

- A. Inclusive, or Industrial, Unions – Negotiating A Higher Industry Wage:** Union attempts to negotiate industry wide-wages for each class of labor; the wage rate is higher and employment is lower than without the union.
- B. Exclusive, or Craft, Unions – Reducing Labor Supply:** Usually limit the supply of union labor, resulting in an increase in wages and a reduction in employment.
- C. Increasing Demand for Union Labor:** This approach is attractive because it increases both the wage and employment.
 - Increasing Demand for Union-Made Goods: Demand for labor is derived; increasing demand for union-made goods increases demand for union labor.
 - Restrict Supply of Nonunion-Made Goods: Usually through trade restrictions.
 - Increase Productivity of Union Labor: Unions assist in labor-management relations.
 - Featherbedding: Union efforts to dictate wage and quantity of labor that must be hired at that wage rate.
- D. Recent Trends in Union Membership:**
 - Rates have declined steadily, as has strike activity.
 - Right-to-Work: Says that workers in unionized companies cannot be forced to join a union or pay union dues. There has been an increase in the number of states that have adopted this law.

CHAPTER 16 - PUBLIC GOODS AND PUBLIC CHOICE

I. Public Goods

- A. Private Goods, Public Goods, and In Between:** Public goods are nonrival in consumption and nonexclusive; private goods are rival and exclusive; a natural monopoly is nonrival but exclusive; and open-access goods are rival but nonexclusive.
- B. Optimal Provision of Public Goods:** The market demand curve equals the vertical sum of each consumer's demand for that good. The efficient level is where the market demand curve intersects marginal cost.
- C. Paying For Public Goods:** The free-rider problem occurs because people try to benefit from public goods without paying for them.

II. Public Choice in Representative Democracy

A. Median-Voter Model: Predicts that under certain conditions, the preference of the median, or middle, voter will dominate other choices.

B. Special Interest and Rational Ignorance:

- **Special Interest:** One theory about government behavior holds that elected officials try to maximize their political support. This may imply catering to special interests rather than serving the interest of the public.
- **Rational Ignorance:** A stance adopted by voters who find that the cost of understanding and voting on a particular issue usually exceeds the expected benefit of doing so.

Most individuals believe their time is better invested in making private choices rather than public choices because the payoff is more immediate, more direct, and more substantial.

C. Distribution of Costs and Benefits:

Possible combinations of benefits and costs yield four possible categories of distributions: (1) widespread benefits and widespread costs, (2) concentrated benefits and widespread costs, (3) widespread benefits and concentrated costs, and (4) concentrated benefits and concentrated costs.

- Traditional public-goods legislation: Widespread benefits and widespread costs (national defense).
- Special-interest legislation: Concentrated benefits but widespread costs (small group benefits with program costs spread across nearly all taxpayers and consumers).
- Populist legislation: Widespread benefits but concentrated costs (tort-reform legislation).
- Competing-interest legislation: Concentrated benefits and concentrated costs (legislation affecting how labor unions deal with employers).

III. Exploiting Government Versus Avoiding Government

A. Rent Seeking:

- Earnings that exceed opportunity cost. An activity that interest groups undertake to secure special favors from government.

B. The Underground Economy: All market activity that goes unreported to the government either to avoid taxes or because the activity is illegal.

IV. Bureaucracy and Representative Democracy:

Bureaus are government departments and agencies charged with implementing legislation; they are financed by appropriations from legislative bodies.

A. Ownership and Funding of Bureaus: Taxpayers are, in a sense, owners of government bureaus. Unlike a firm, ownership of a bureau is not transferable. When bureaus earn a "profit," taxes may decline; when the bureaus sustain a "loss," taxes are raised.

B. Ownership and Organizational Behavior: Because public goods and services are not sold in markets, government bureaus receive less consumer feedback and have less incentive to act on any feedback they do receive. Because ownership of bureaus is not transferable, there is less incentive to eliminate waste and inefficiency.

C. Bureaucratic Objectives: One theory holds that bureaus try to maximize their budgets because of the size, prestige, amenities, staff, and pay that go with a bigger budget.

D. Private versus Public Production: The government need not produce all the public goods and services it finances. The trend has been toward privatization of government goods and services.

CHAPTER 17 - EXTERNALITIES AND THE ENVIRONMENT

- I. Externalities and the Common-Pool Problem**
- Exhaustible resource:** A resource available in a finite amount, such as crude oil or copper ore.
- A. Renewable Resources:** A resource that can be drawn on indefinitely if used conservatively.
- B. Common-pool problem:** People harvest a renewable resource as long as marginal benefit exceeds marginal cost.
- Private property rights: Allows individuals to use resources or to charge others for their use.
 - **Resolving the Common-Pool Problem:** When imposing and enforcing private property rights would be too costly, government regulations may improve allocative efficiency.
- II. Optimal Level of Pollution**
- A. External Costs with Fixed Technology**
- Fixed-production technology: The relationship between output rate and the generation of an externality is fixed.
 - Marginal social cost: The sum of the marginal private cost and the marginal external cost that production imposes on society.
- B. External Costs with Variable Technology**
- Variable technology: Occurs when the amount of externality generated at a given rate of output can be reduced by altering the production process rather than by simply reducing the rate of output.
 - Marginal social benefit: reflects the additional benefit society derives from reducing an externality.
- C. The Coase Theorem:** As long as bargaining costs are small, merely assigning the property right will generate an efficient solution to an externality problem regardless of which party is assigned that right.
- D. Markets for Pollution Rights:** A system of marketable pollution rights can reduce the cost of pollution abatement. The value of pollution permits, but not the total amount of pollution may fluctuate over time.
- E. Pollution Rights and Public Choice:**
- **Command and control environmental regulations** require polluters to adopt particular technologies to reduce emissions by specific amounts.
 - **Economic efficiency approach** permits polluters flexibility in reducing emissions in the most cost-effective manner, given its unique operation.

III. Environmental Protection:

Federal efforts to address the common-pool problem of air, water, and soil pollution are coordinated by the Environmental Protection Agency (EPA).

A. Air Pollution: Smog is the most visible form of air pollution.

B. Water Pollution: Two major sources: sewage and chemicals. About two-thirds of chemical pollutants in water come from nonpoint pollution, agricultural pesticide and fertilizer runoff.

C. Hazardous Waste and the Superfund: Chemicals can pose a risk at every stage of their production, use, and disposal. Superfund law requires any company that generates, stores, or transports hazardous waste to pay to clean up any wastes that are improperly disposed.

D. Solid Waste: "Paper or Plastic?" About 70 percent of the nation's garbage goes to landfills, 15 percent is recycled, and 15 percent is incinerated.

IV. Positive Externalities:

Occur when consumption or production benefits other consumers or other firms.

CHAPTER 19 - INTERNATIONAL TRADE

I. The Gains from Trade: Each country specializes in making goods with the lowest opportunity cost.

A. A Profile of Exports and Imports:

U.S. exports of goods and services amounted to 14% of GDP in 2011. The largest category of exports is services which accounted for 29% of all U.S. exports. Capital goods and industrial supplies and materials together account for 47%. U.S. imports of goods and services were 18% of GDP in 2011. The three largest imports are industrial supplies, consumer goods, and capital goods.

B. Production Possibilities Without Trade:

- **Autarky:** A situation of national self-sufficiency in which there is no economic interaction with foreign producers or consumers.

C. Consumption Possibilities Based on Comparative Advantage:

According to the law of comparative advantage, each country should specialize in producing the good with the lower opportunity cost.

D. Reasons for International Specialization

- Differences in Resource Endowments: Countries export products they can produce more cheaply in return for products that are unavailable domestically or are cheaper elsewhere.
- Economies of Scale: Countries can gain from trade if the long-run average cost of production falls as the rate of production increases.
- Differences in Tastes: Different tastes across countries prompt trade.
- More Variety: Increase the variety of goods and services available.

II. Trade Restrictions and Welfare Loss

A. Consumer Surplus and Producer Surplus from Market Exchange: Market exchange usually generates a surplus, or a bonus, for both consumers and producers.

- B. Tariffs:** Taxes on imports—either specific, such as \$5 per barrel of oil—or ad valorem—a percentage of the import price at the port of entry.
- C. Import Quotas:** Legal limit on the amount of a commodity that can be imported. By limiting imports, the quota raises the domestic price above the world price and reduces quantity below the free-trade level.
- D. Quotas in Practice:** By rewarding domestic and foreign producers with higher prices, the quota system creates two groups intent on securing and perpetuating these quotas.
- E. Tariffs and Quotas Compared:** The primary difference between tariffs and quotas is the revenues. Revenues from tariffs go to the government; revenues from quotas go to whomever secures the right to sell foreign goods in U.S. markets. If quota rights accrue to foreigners, then the domestic economy is worse off with a quota than with a tariff.
- F. Other Trade Restrictions:** Export subsidies, low-interest loans to foreign buyers, domestic content requirements restrict free trade.

III. Efforts to Reduce Trade Barriers

A. Freer Trade by Multilateral Agreement

- General Agreement on Tariffs and Trade (GATT): An international trade treaty adopted in 1947 that resulted in a series of negotiated “rounds” aimed at freer trade.
- Dumping: Selling a commodity abroad for less than is charged in the home market or less than the cost of production.

B. The World Trade Organization: (WTO) The legal and institutional foundation for world trade.

C. Common Markets: Free trade agreements among countries, such as the European Union and NAFTA.

IV. Arguments for Trade Restrictions:

These arguments support domestic producers but lead to a loss in social welfare. Some make more sense than others

A. National Defense Argument: Protection from import competition because domestic output is vital for national defense.

B. Infant Industry Argument: Protection for emerging domestic industries from foreign competition.

C. Antidumping Argument: Foreign competitors should not be allowed to sell in this country for less than the cost of production or less than they charge in their home countries.

D. Jobs and Income Argument: Restrictions protect domestic jobs and wage levels.

E. Declining Industries Argument: Trade protection can help lessen shocks to the economy and allow for orderly transition to a new industrial mix.

F. Problems with Trade Protection:

- Protecting one stage of production may require protecting downstream stages.
- The cost of protection includes the resulting welfare loss AND the cost of resources used to seek protection.
- The transaction costs of enforcing the myriad restrictions.
- Economies isolated from foreign competition become less innovative and less efficient.
- Other countries usually retaliate.

Practice Questions

CHAPTER 8

1. In a perfectly competitive market, economic forces are controlled by government policy makers.
True False
2. In perfect competition, price is equal to marginal revenue.
True False
3. For a perfectly competitive firm, the profit-maximizing output level occurs where marginal cost equals price.
True False
4. If long-run average total cost exceeds marginal revenue, a perfectly competitive firm will incur losses.
True False
5. New entrants into an industry are attracted by the existence of positive economic profit.
True False
6. In a perfectly competitive market:
A. individual producers determine market prices.
B. market supply and market demand determine the price.
C. the entrepreneur determines the price.
D. individual consumers determine market prices.
7. In a purely competitive industry, each firm:
A. is a price maker.
B. produces a differentiated product.
C. can easily enter or exit the industry.
D. engages in forms of nonprice competition.
8. Which is a feature of a purely competitive market?
A. There are price differences between firms producing the same product.
B. There are significant barriers to entry into the industry.
C. The industry's demand curve is perfectly elastic.
D. Products are standardized or commodities.
9. Perfectly competitive firms:
A. are price takers.
B. are individually able to influence the market price.
C. will succeed by charging a price higher than that charged by the rest of the market.
D. can influence the prices of other firms in the industry by altering their own prices.

10. Which is true under conditions of pure competition?
 - A. There are differentiated products.
 - B. The market demand curve is perfectly elastic.
 - C. No single firm can influence the market price by changing its output.
 - D. Firms that cannot make pure or economic profits go bankrupt.

11. In a perfectly competitive market, the demand curve faced by an individual firm is:
 - A. perfectly inelastic.
 - B. relatively inelastic.
 - C. perfectly elastic.
 - D. relatively elastic.

12. Suppose there are 50 firms in a perfectly competitive market and each maximizes profit at 50 units of output when market price is \$15.00 per unit. One of the points on the market supply curve must be at:
 - A. price = \$15 and quantity supplied = 2,500.
 - B. price = \$15 and quantity supplied = 25,000.
 - C. price = \$3.33 and quantity supplied = 2,500.
 - D. price = \$3.33 and quantity supplied = 25,000.

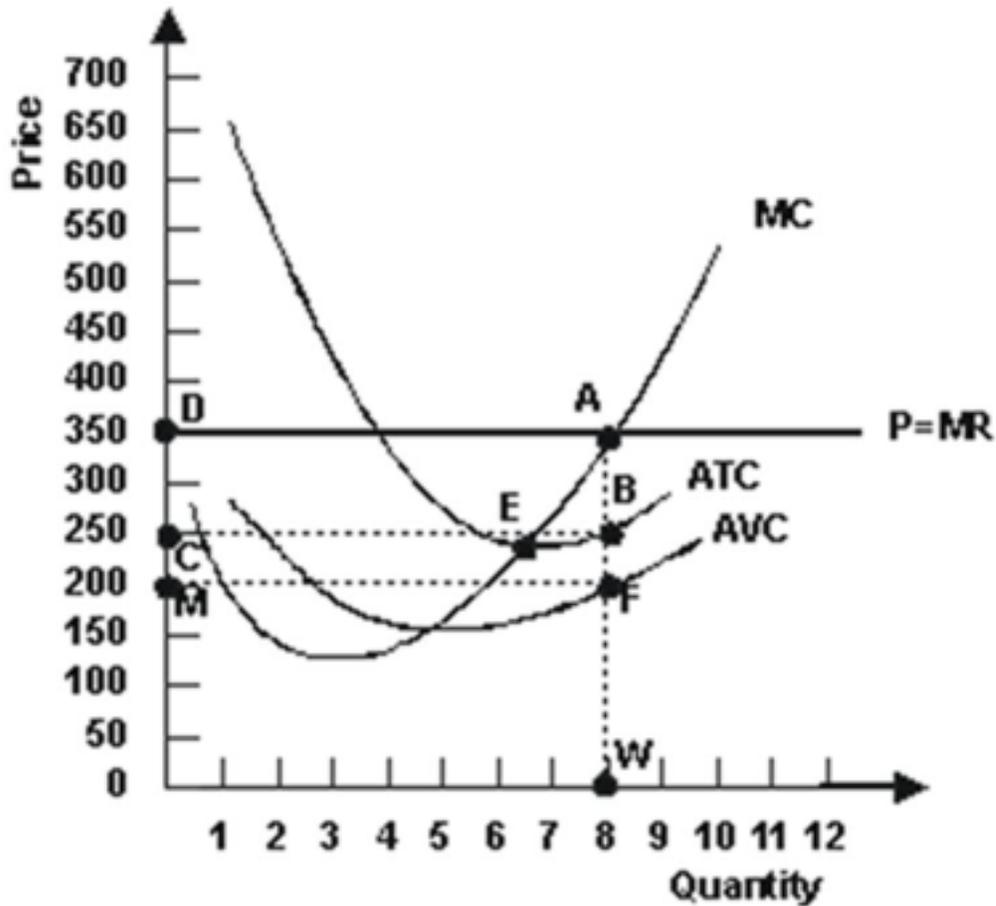
13. To maximize profits, a perfectly competitive firm should produce where marginal:
 - A. cost equals total revenue.
 - B. cost exceeds marginal revenue.
 - C. cost equals marginal revenue.
 - D. revenue exceeds marginal cost.

14. As long as marginal cost is below marginal revenue, a perfectly competitive firm should:
 - A. increase production.
 - B. hold production constant.
 - C. decrease production.
 - D. reconsider past production decisions.

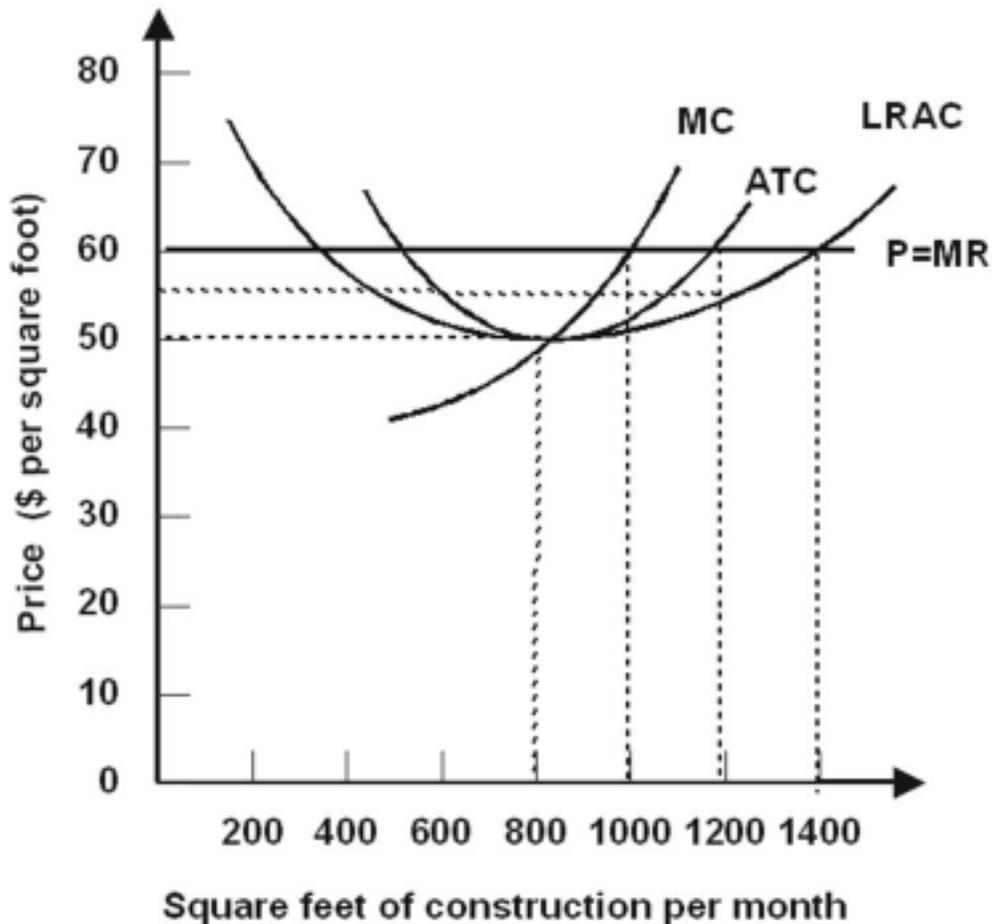
15. A perfectly competitive firm facing a price of \$50 decides to produce 500 widgets. Its marginal cost of producing the last widget is \$50. If the firm's goal is maximize profit, it should:
 - A. produce more widgets.
 - B. produce fewer widgets.
 - C. continue producing 500 widgets.
 - D. shut down.

16. A perfectly competitive firm in the long run:
 - A. will earn positive or negative economic profits.
 - B. will earn negative accounting profits as long as economic profits are positive.
 - C. makes zero economic profits.
 - D. makes zero accounting profits.

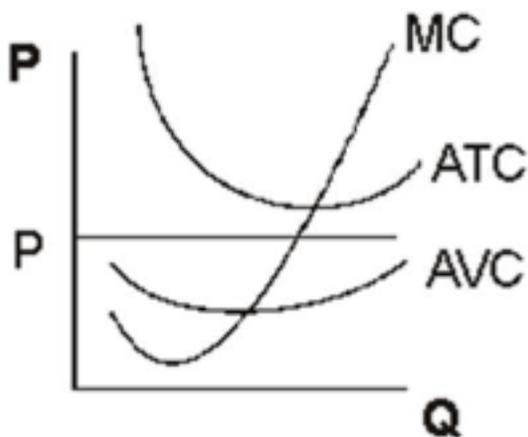
17. Suppose that the firms in the perfectly competitive oat industry currently are receiving a price of \$2 per bushel for their product. The minimum possible average total cost of producing oats in the long run is \$1 per bushel. It follows that:
- A. the oat industry is in equilibrium.
 - B. new firms will enter the oat industry.
 - C. the price of oats will remain at \$2 per bushel in the long run.
 - D. firms in the oat industry will earn economic profits in both the long run and the short run.



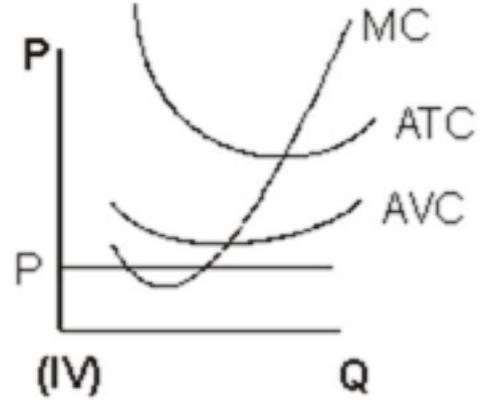
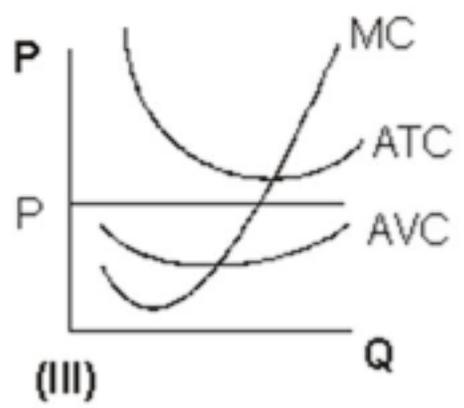
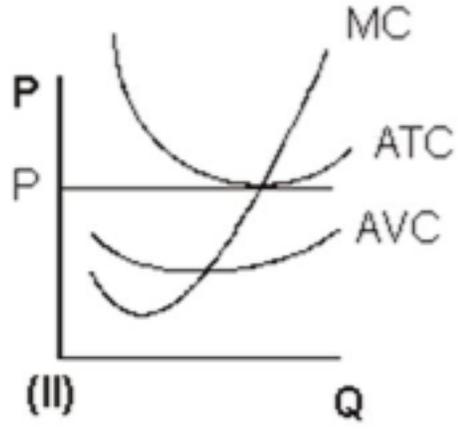
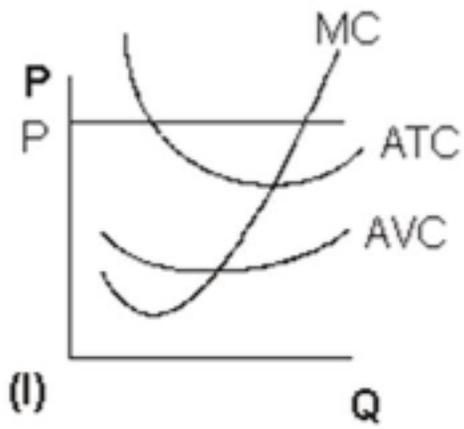
18. Refer to the graph shown. What area represents total economic profits?
- A. DAFM
 - B. CBWT
 - C. MFWT
 - D. DABC



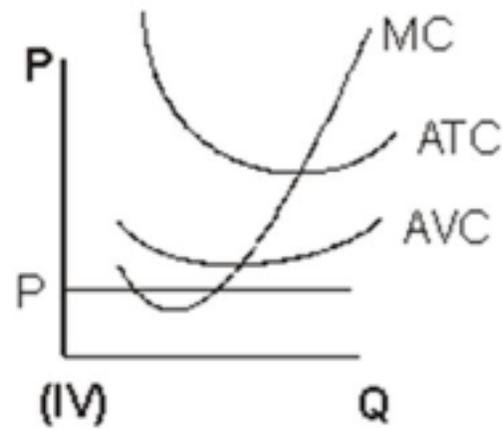
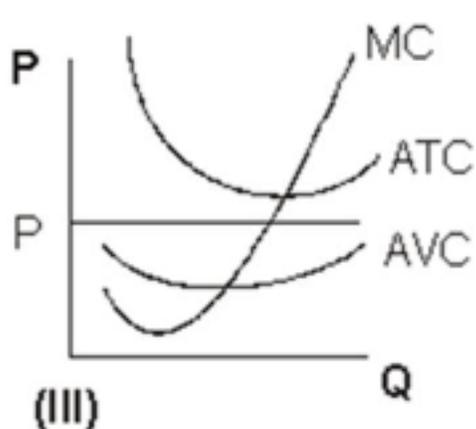
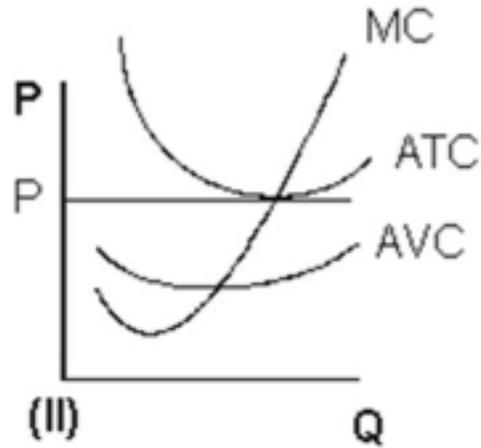
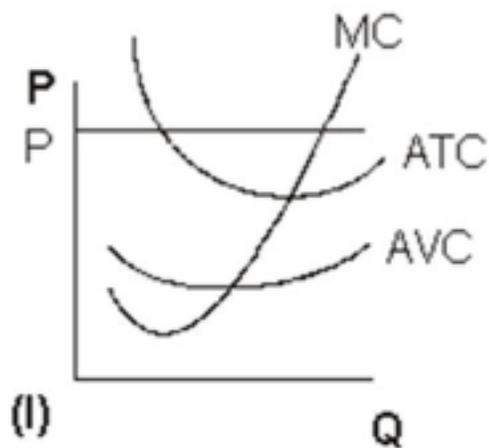
19. Refer to the graph shown. Assuming that the industry operates under conditions of perfect competition:
- A. it is currently in equilibrium.
 - B. new firms will soon enter the industry.
 - C. existing firms will leave the industry.
 - D. firms in the industry are earning zero economic profit.



20. Refer to the graph shown. The perfectly competitive firm depicted is currently:
- A. earning positive economic profit.
 - B. earning zero economic profit.
 - C. incurring a loss, but the loss is smaller than it would be if the firm shut down.
 - D. incurring a loss that is larger than total fixed cost, and so the firm should shut down.



21. Refer to the graph shown. Which graph depicts a perfectly competitive firm in long-run equilibrium?
- A. graph I
 - B. graph II
 - C. graph III
 - D. graph IV



22. Refer to the graph shown. Which graph depicts a perfectly competitive firm that will shut down?
- graph I
 - graph II
 - graph III
 - graph IV
23. Assume a purely competitive increasing-cost industry is in long-run equilibrium. Now suppose that an increase in consumer demand occurs. After all the resulting adjustments have been completed, the new equilibrium price:
- and industry output will be less than the initial price and output.
 - and industry output will be greater than the initial price and output.
 - will be greater, but the new output will be less than initially.
 - will be less, but the new output will be greater than initially.
24. Productive efficiency refers to:
- cost minimization, where $P = \text{minimum ATC}$.
 - production, where $P = \text{MC}$.
 - maximizing profits by producing where $\text{MR} = \text{MC}$.
 - setting $\text{TR} = \text{TC}$.

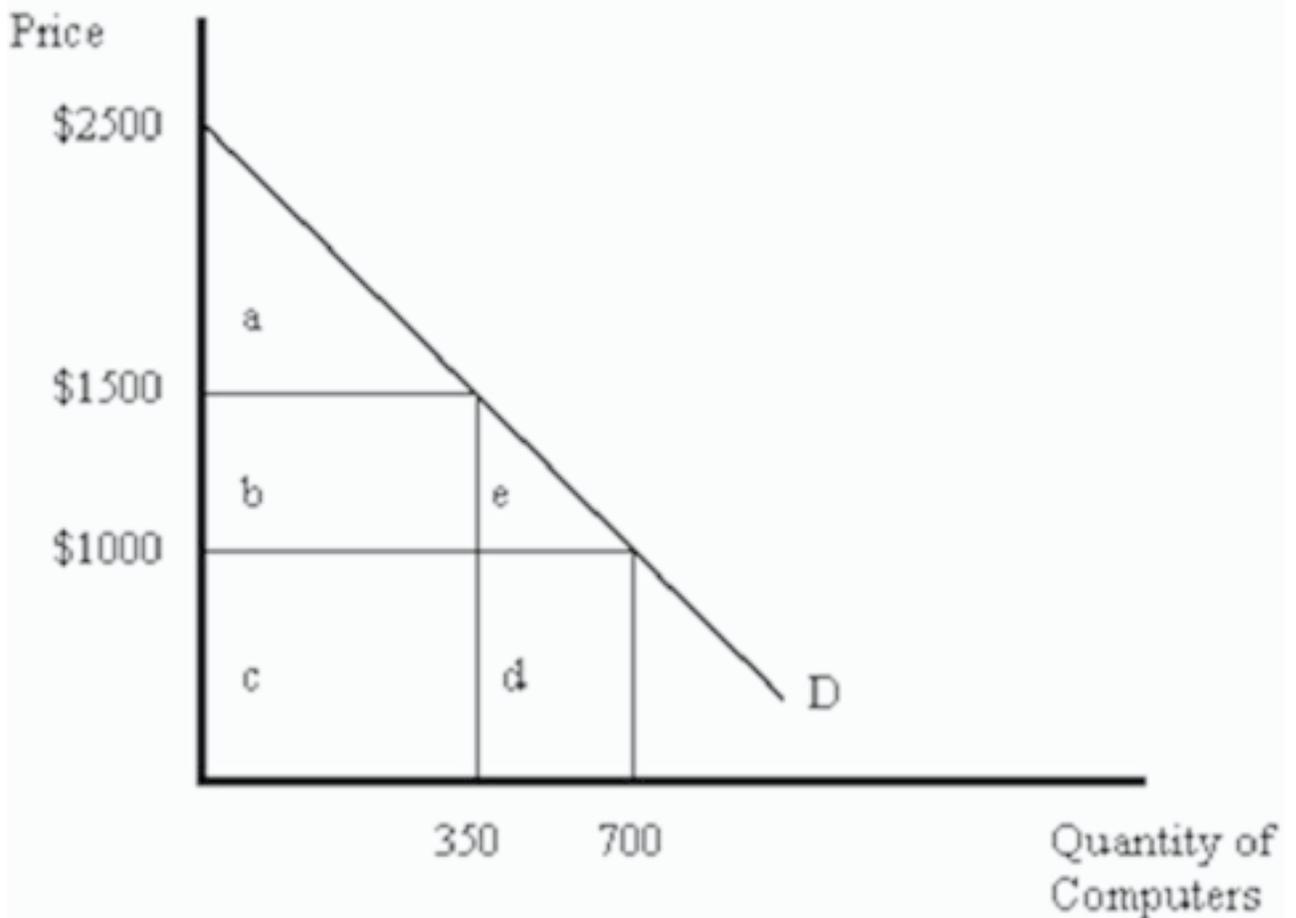


Figure 6.4

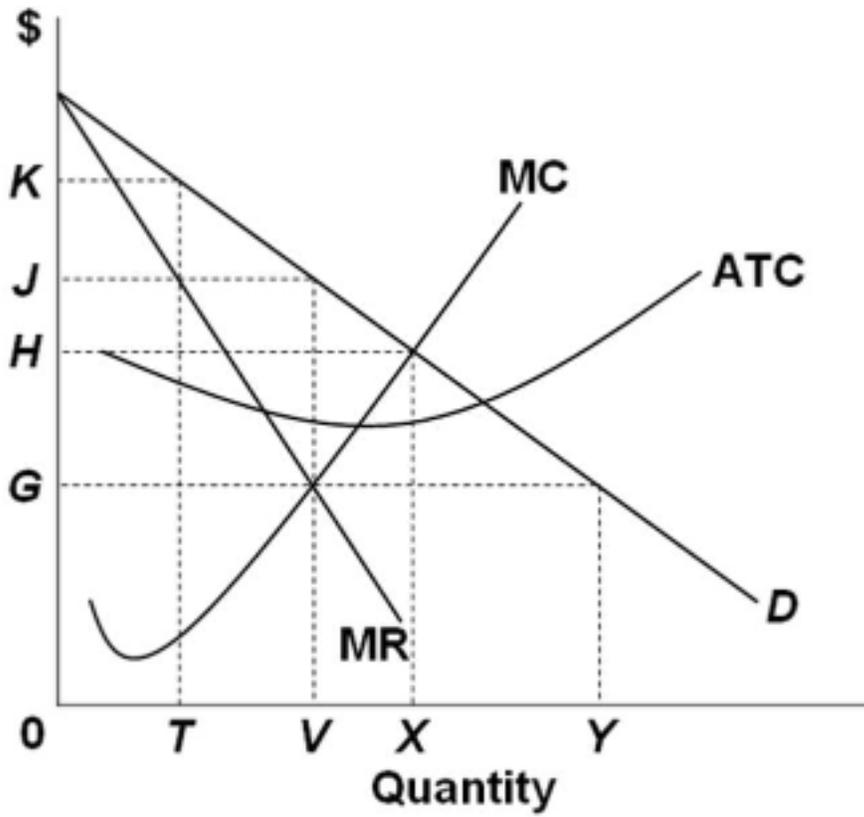
25. Refer to the graph shown. If the price of computers is \$1,000, then consumer surplus is given by the area represented by:
- A. $c + d$.
 - B. b .
 - C. $b + c$.
 - D. $a + b + e$.

CHAPTER 9

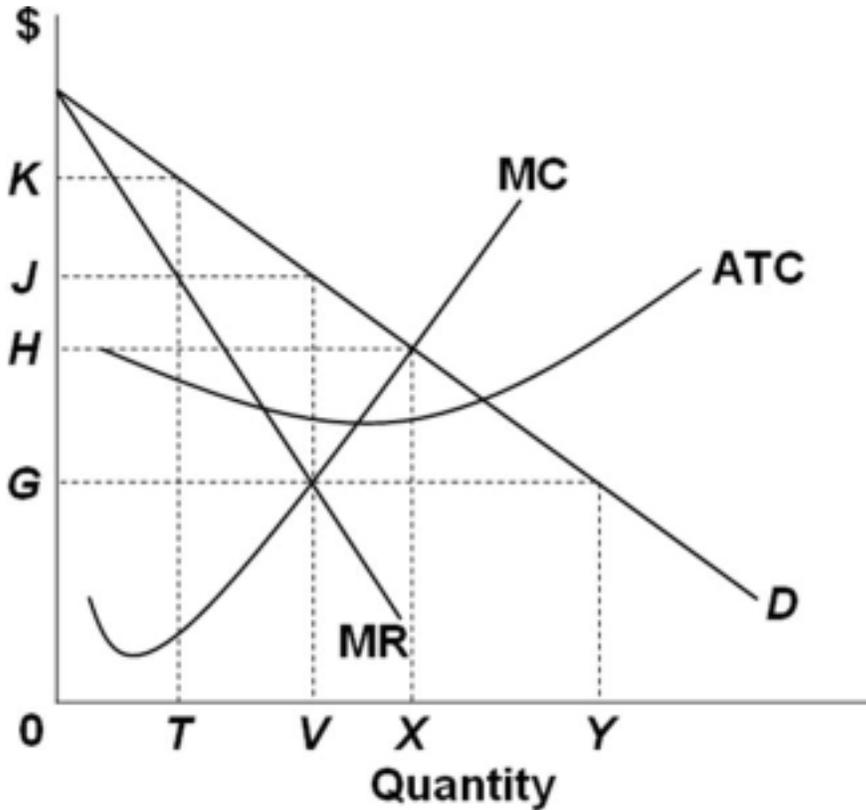
26. The profit-maximizing output level for a monopolist occurs where marginal revenue equals marginal cost.
True False
27. A monopolist will always make a profit in the short run.
True False
28. If a monopolist can price discriminate among buyers, it will charge buyers with more elastic demands a higher price.
True False

29. Patents and licenses are barriers to entry.
True False
30. In a monopoly, price is greater than marginal cost.
True False
31. One defining characteristic of pure monopoly is that:
A. the monopolist is a price taker.
B. the monopolist uses advertising.
C. the monopolist produces a product with no close substitutes.
D. there is relatively easy entry into the industry, but exit is difficult.
32. Barriers to entry:
A. usually result in pure competition.
B. can result from government regulation.
C. exist in economic theory but not in the real world.
D. are typically the result of wrongdoing on the part of a firm.
33. Under conditions of pure monopoly:
A. there are close substitutes.
B. there is no advertising.
C. the firm is a price taker.
D. entry into the industry by additional producers is blocked.
34. A monopoly is most likely to emerge and be sustained when:
A. output demand is relatively elastic.
B. firms have U-shaped average total cost curves.
C. fixed capital costs are small relative to total costs.
D. economies of scale are large relative to market demand.
35. What do economies of scale, the ownership of essential raw materials, and patents have in common?
A. They must all be present before price discrimination can be practiced.
B. They are all barriers to entry.
C. They all help explain why a monopolist's demand and marginal revenue curves coincide.
D. They all help explain why the long-run average cost curve is U-shaped.
36. One feature of pure monopoly is that the demand curve:
A. is vertical.
B. is horizontal.
C. slopes upward.
D. slopes downward.

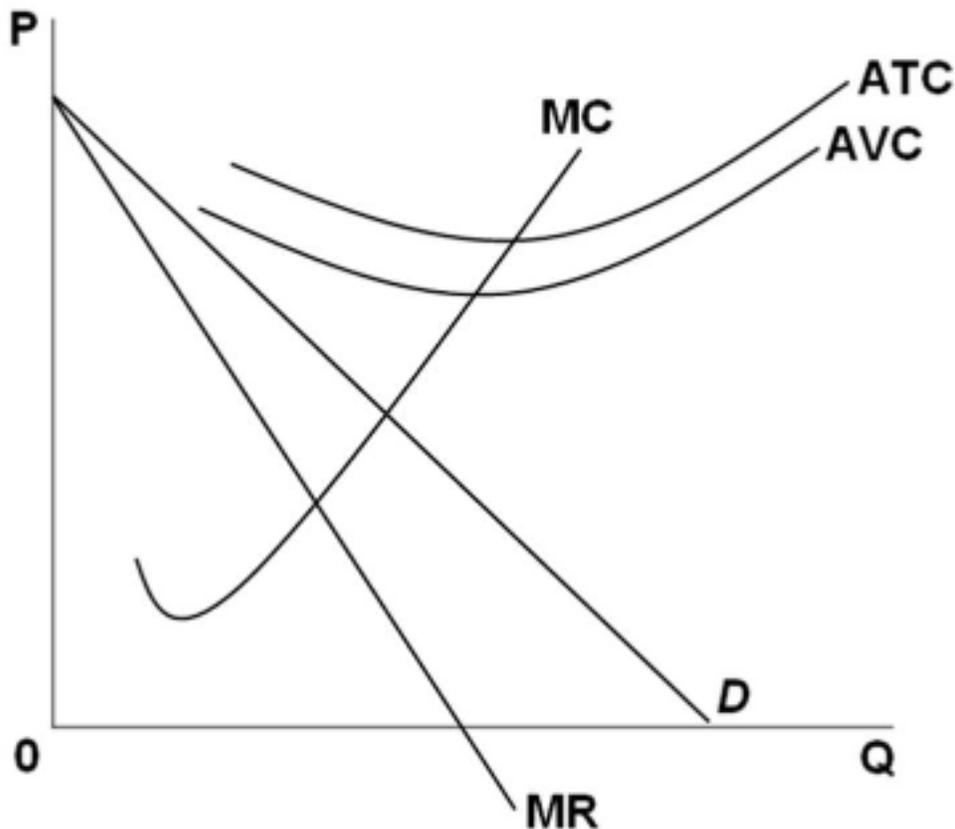
37. The nondiscriminating pure monopolist's demand curve:
- A. is the industry demand curve.
 - B. shows a direct or positive relationship between price and quantity demanded.
 - C. tends to be inelastic at high prices and elastic at low prices.
 - D. is identical to its marginal revenue curve.
38. Suppose a monopolist produces output where total revenue is maximized. At that output, the price elasticity of demand for the monopolist's output is:
- A. greater than or equal to one.
 - B. less than one.
 - C. equal to one.
 - D. impossible to determine without data.
39. Which is true with respect to the demand data confronting a monopolist?
- A. Demand is perfectly price inelastic.
 - B. Price increases as the output of the firm increases.
 - C. Marginal revenue increases as price decreases.
 - D. Marginal revenue is less than price.
40. Many people believe that monopolies charge any price they want to without affecting sales. Instead, the output level for a profit-maximizing monopoly is determined by:
- A. Marginal cost = Demand.
 - B. Marginal revenue = Demand.
 - C. Average total cost = Demand.
 - D. Marginal cost = Marginal revenue.
41. Suppose that a monopolist calculates that at present output and sales, marginal cost is \$1.00 and marginal revenue is \$2.00. He could maximize profits by:
- A. decreasing price and increasing output.
 - B. increasing price and decreasing output.
 - C. decreasing price and leaving output unchanged.
 - D. decreasing output and leaving prices unchanged.
42. A profit-maximizing firm should shut down in the short run if the average revenue it receives is less than:
- A. average variable cost.
 - B. average total cost.
 - C. average fixed cost.
 - D. marginal cost.



43. Refer to the graph shown. The profit-maximizing monopolist shown sets its output at:
- A. V.
 - B. Y.
 - C. T.
 - D. X.



44. Refer to the graph shown. The profit-maximizing monopolist shown sets its price at:
- J.
 - G.
 - K.
 - H.



45. A profit-maximizing monopolist facing the situation shown in the graph above should:
- shut down immediately.
 - continue producing to minimize losses.
 - continue producing to make economic profits.
 - continue producing as long as price is greater than marginal cost.
46. When compared with the purely competitive industry with identical costs of production, a monopolist will produce:
- more output and charge the same price.
 - more output and charge a higher price.
 - less output and charge a higher price.
 - less output and charge the same price.
47. Compared to the purely competitive firm, a pure monopoly:
- is able to use barriers to entry and maintain positive economic profits in the long run.
 - produces an equal amount of output but charges higher prices to cover all costs.
 - is efficient from society's perspective because it has big plants and it uses the newest possible production technology.
 - will always become competitive in the long run because positive economic profits will induce competitors into the market.

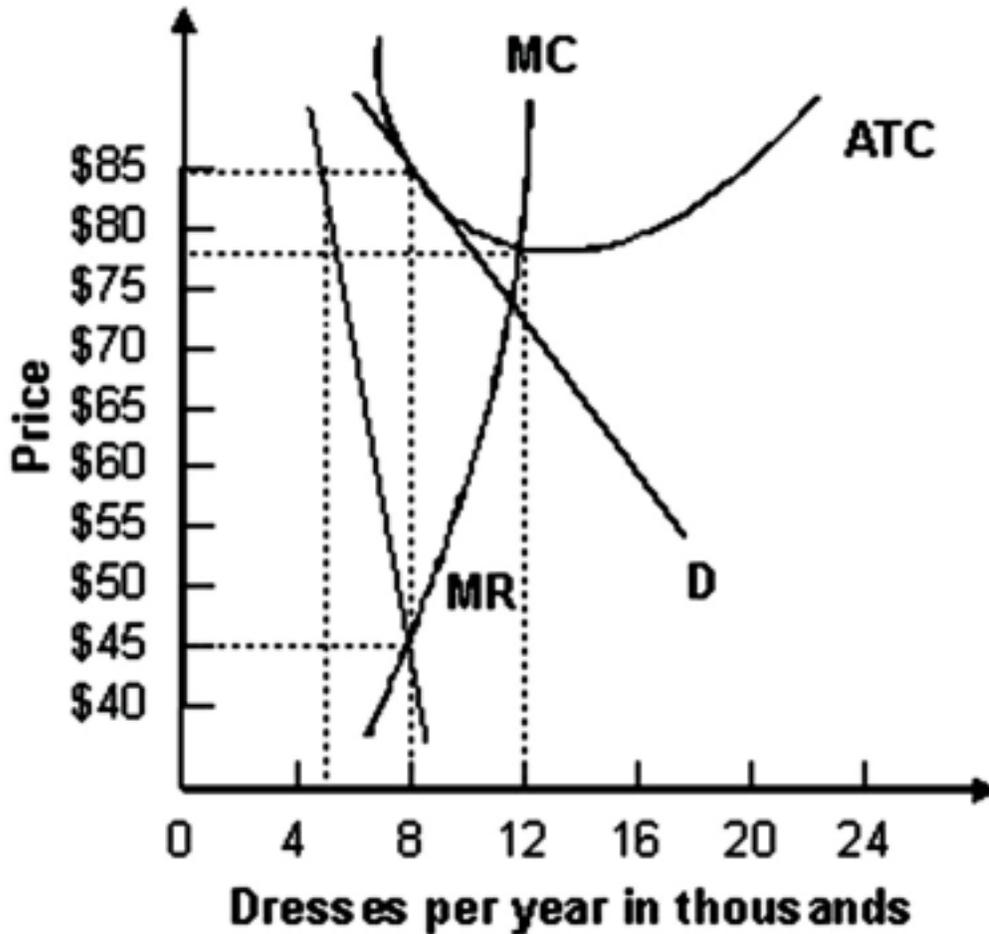
48. The economic incentive for price discrimination depends on:
- A. prejudices of business managers.
 - B. differences among sellers' costs.
 - C. a desire to evade antitrust legislation.
 - D. differences among buyers' demand elasticities.
49. To practice long-run price discrimination, a monopolist must:
- A. be a natural monopoly.
 - B. charge one price to all buyers.
 - C. permit the resale of the product by the original buyers.
 - D. be able to separate buyers into different markets with different price elasticities.
50. Which is true of price discrimination?
- A. Successful price discrimination will provide the firm with lower total profits than if it did not discriminate.
 - B. Successful price discrimination will provide the firm with more profit than if it did not discriminate.
 - C. Successful price discrimination will generally result in a lower level of output than would be the case under a single-price monopoly.
 - D. It exists when price differences depend critically on differences in the costs of production of serving different groups of buyers.

CHAPTER 10

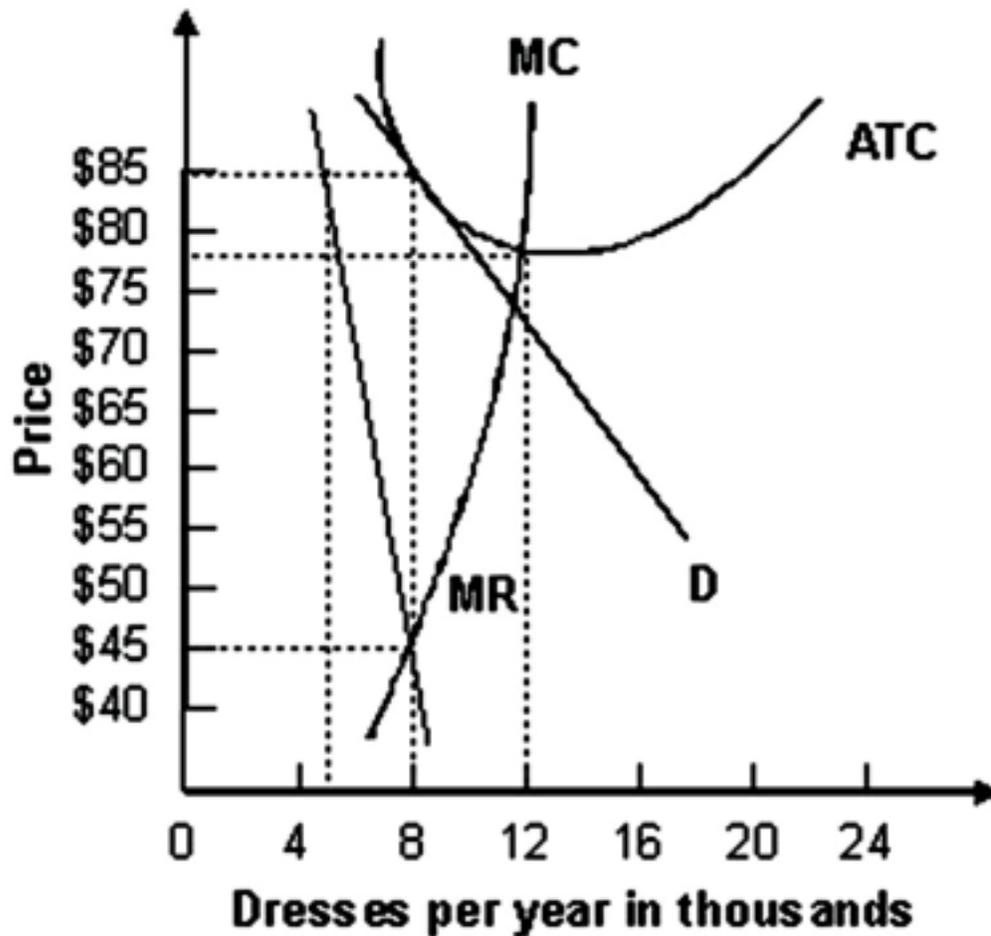
51. A monopolistically competitive industry has many firms that sell differentiated products.
True False
52. Brand names and packaging are forms of product differentiation under monopolistic competition.
True False
53. If a monopolistically competitive firm's optimal level of output occurs where $P < AVC$, it will shut down.
True False
54. Pure competition results in a lower price but identical output level compared to those in monopolistic competition.
True False
55. The oligopoly model is the only model that explicitly considers how the pricing and output decisions of one firm affect other firms.
True False
56. The cartel model of oligopoly assumes that firms jointly behave as a monopolist in order to maximize joint profits.
True False

57. Game theory analysis of oligopolistic behavior suggests that oligopolists will benefit from collusion.
True False
58. An industry that has many sellers offering slightly differentiated products is called:
A. perfectly competitive.
B. monopolistically competitive.
C. oligopolistic.
D. monopolistic.
59. In a monopolistically competitive market:
A. firms produce differentiated products.
B. there are barriers to entry.
C. firms produce homogeneous products.
D. the demand for any firm's product is perfectly elastic.
60. Under monopolistic competition, there are:
A. few barriers to entry.
B. only a small number of sellers in the market.
C. significant barriers to entry.
D. only a few buyers in the market.
61. If a monopolistically competitive firm is earning economic profits in the short run:
A. these profits will persist in the long run because of the firm's limited monopoly power.
B. these profits will be eliminated in the long run as new firms enter the industry.
C. its output will increase in the long run.
D. price will be driven down to minimum average total cost in the long run.
62. The price at which a monopolistically competitive firm sells its product:
A. exceeds the marginal cost of production.
B. produces economic profits in both the long run and the short run.
C. equals the marginal cost of production.
D. is less than the marginal cost of production.
63. If a monopolistically competitive market became perfectly competitive, output probably would:
A. rise.
B. fall.
C. not change.
D. rise and then fall.
64. If a market with monopolistic competition became a monopoly market, output would:
A. rise.
B. fall.
C. not change.
D. be incomparable.

65. For a monopolistic competitor:
- A. $P = ATC$ in long-run equilibrium.
 - B. $P > ATC$ in long-run equilibrium.
 - C. $P = MR$ in long-run equilibrium.
 - D. $P = MC$ in long-run equilibrium.



66. Refer to the graph shown. If the monopolistically competitive firm maximizes profit, it will:
- A. produce 8,000 dresses per year.
 - B. produce 5,000 dresses per year.
 - C. produce 12,000 dresses per year.
 - D. go out of business because it cannot earn a profit.



67. Refer to the graph shown. If this monopolistically competitive firm maximizes profit, it will:
- charge \$45 per dress.
 - charge \$78 per dress.
 - charge \$85 per dress.
 - shut down because it cannot cover its opportunity costs.
68. Under oligopoly:
- there are many sellers in the industry.
 - there are only a few sellers in the industry.
 - the demand for each firm's output is perfectly elastic.
 - there are no barriers to entry.
69. The characteristic most closely associated with oligopoly is:
- easy entry into the industry.
 - a few large producers.
 - product standardization.
 - no control over price.
70. The central characteristic of oligopolistic industries is:
- interdependent pricing decisions.
 - flexible prices.
 - price competition.
 - few or no economies of scale.

71. Mutual interdependence means that each firm in an oligopolistic industry:
- A. faces a perfectly inelastic demand for its product.
 - B. considers the reactions of its rivals when it determines its price policy.
 - C. makes a product identical to those produced by its rivals.
 - D. makes a product similar but not identical to those produced by its rivals.
72. Suppose there are only four airlines that service the air route between two cities. If there is a barrier to entering the market (such as a limited number of gates), the market is best characterized as:
- A. a pure monopoly.
 - B. monopolistically competitive.
 - C. oligopolistic.
 - D. perfectly competitive.
73. Which is an example of a differentiated oligopoly?
- A. The beer industry.
 - B. The primary aluminum industry.
 - C. The polyester fiber industry.
 - D. The cement industry.
74. A major reason that firms form a cartel is to:
- A. reduce the elasticity of demand for the product.
 - B. enlarge the market share for each producer.
 - C. minimize the costs of production.
 - D. maximize joint profits.
75. Suppose a few powerful firms control all production in an industry and face identical demand and cost schedules. If they successfully collude and maximize joint profits, then price, output, and profit levels in the industry will be the same as those in:
- A. pure monopoly.
 - B. regulated monopoly.
 - C. monopolistic competition.
 - D. an oligopoly with a kinked-demand curve.
76. The incentive to cheat is strong in a cartel because:
- A. each firm can increase its output and thus its profits by cutting price.
 - B. the marginal revenue for an individual firm is greater than marginal cost at the profit-maximizing price set by the cartel.
 - C. there is a significant lack of government regulation of cartels, especially those in worldwide production.
 - D. the costs of production are the same for each firm, but the product demand differs.

		Firm A	
		High Price	Low Price
Firm B	High Price	A = \$250 B = \$250	A = \$325 B = \$200
	Low Price	A = \$200 B = \$325	A = \$175 B = \$175

77. Refer to the above payoff matrix. If both firms collude to maximize joint profits, the total profits for the two firms will be:
- A. \$350 million.
 - B. \$400 million.
 - C. \$500 million.
 - D. \$525 million.

		Firm A	
		High Price	Low Price
Firm B	High Price	A = \$250 B = \$250	A = \$325 B = \$200
	Low Price	A = \$200 B = \$325	A = \$175 B = \$175

78. Refer to the above payoff matrix. Assume that firm B adopts a low-price strategy while firm A maintains a high-price strategy. Compared to the results from a high-price strategy for both firms, firm B will now:
- A. lose \$75 million in profit and firm A will gain \$50 million in profit.
 - B. gain \$50 million in profit and firm A will lose \$50 million in profit.
 - C. gain \$75 million in profit and firm A will lose \$50 million in profit.
 - D. gain \$50 million in profit and firm A will lose \$75 million in profit.

CHAPTER 11

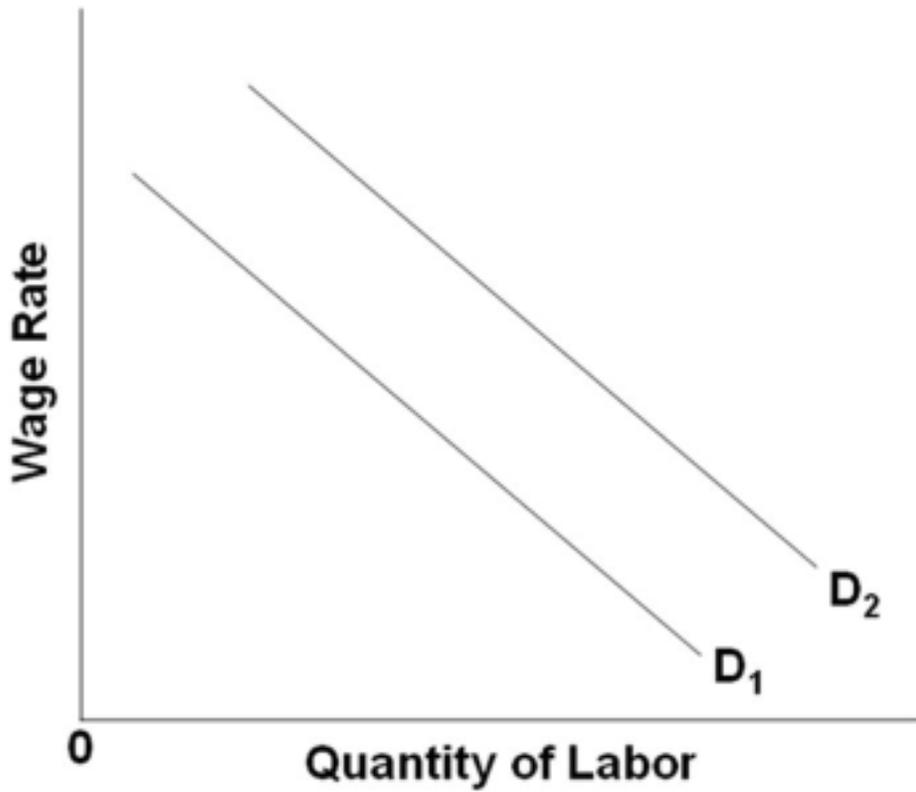
79. The higher the after-tax wage, the greater the quantity of labor supplied.
True False
80. The demand for labor is derived from the demand for output.
True False
81. An increase in the marginal income tax rate will increase the quantity of labor supplied.
True False
82. The labor supply curve is generally considered to be upward-sloping because the opportunity cost of leisure:
A. increases as wages get higher.
B. decreases as wages get higher.
C. remains unchanged as wages get higher.
D. has nothing to do with wages.
83. The demand for labor is a derived demand because:
A. many workers are self-employed.
B. the income workers earn adds to the demand for output.
C. the demand for output comes from the demand for labor.
D. the demand for labor comes from the demand for output.
84. The marginal revenue product of an input tends to decrease as:
A. the price of output increases.
B. more of the input is used.
C. the price of the input decreases.
D. productivity increases.
85. The value of the marginal revenue product of labor equals
A. The total revenue from selling the equilibrium amount of output
B. The additional revenue from selling the output of one additional unit of labor
C. The revenue from selling one more unit of output
D. The price of the product being produced by labor
86. If the marginal product of the fifth person employed is 10 and the product price is \$5, then the marginal revenue product of the fifth person is
A. \$10
B. \$50
C. \$15
D. More than \$50

87. Suppose that the marginal revenue product of labor is currently 40 and the marginal revenue product of capital is 30. If both inputs have the same cost, the firm should:
- A. increase both labor and capital proportionally to meet the cost minimization condition.
 - B. decrease both labor and capital proportionally to meet the cost minimization condition.
 - C. increase labor and reduce capital to meet the cost minimization condition.
 - D. increase capital and reduce labor to meet the cost minimization condition.

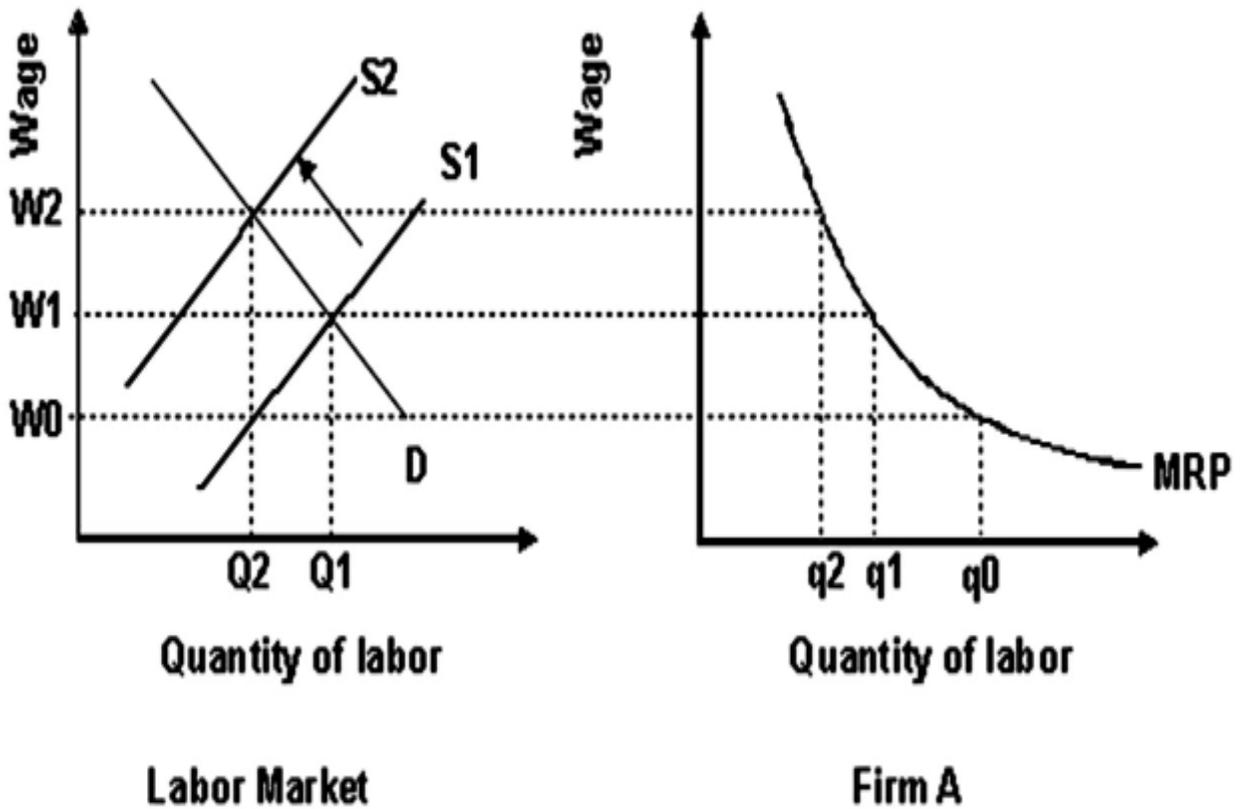
<u>Labor Input</u>	<u>Cups of espresso</u>
0	0
1	25
2	45
3	60
4	70
5	75

The relationship between labor usage and output at the local coffee shop is summarized in the table shown. The price of a cup of espresso is \$1.25 and no other inputs are required.

88. The marginal revenue product for the first worker is _____.
- A. 25 cups of espresso
 - B. \$31.25
 - C. \$25
 - D. \$20



89. Refer to the graph shown. What will shift D_1 to D_2 ?
- A. A decrease in productivity
 - B. An increase in product demand
 - C. An increase in the price of complementary input
 - D. A decrease in the price of a substitute input



90. Refer to the graph shown. If labor supply shifts from S1 to S2, the market wage rate will:
- A. increase from W0 to W1.
 - B. increase from W1 to W2.
 - C. decrease from W1 to W0.
 - D. decrease from W2 to W1.

CHAPTER 12

91. The carpenters' union is an industrial union.
True False
92. Restricting the supply of labor is a means of increasing wage rates more commonly used by industrial unions than craft unions.
True False
93. The labor supply curve shows how many workers are willing to work
- A. in a particular industry.
 - B. at any given time.
 - C. at the minimum wage.
 - D. at any given wage.
94. An upward-sloping labor supply curve implies that
- A. a firm can always hire more workers, even without increasing the wage.
 - B. more workers are willing to work when wages are low.
 - C. more workers are willing to work as the market wage increases.
 - D. labor supplied is fixed.
95. Which of the following is most likely to reduce the supply of labor?
- A. An increase in population
 - B. An increase in the value placed on leisure by workers
 - C. A decrease in the value placed on leisure by workers
 - D. A decrease in labor productivity
96. The effect that explains why workers tend to supply more hours when wages increase is called the:
- A. income effect.
 - B. social effect.
 - C. substitution effect.
 - D. work effect.
97. The effect that explains why workers might supply fewer hours when their hourly wages increase is called the:
- A. income effect.
 - B. leisure effect.
 - C. substitution effect.
 - D. work effect.

98. Why do skilled workers generally earn more than unskilled workers?
- A. The demand for unskilled labor is more inelastic than the demand for skilled labor.
 - B. Skilled labor has higher marginal revenue products than unskilled labor.
 - C. The demand for unskilled labor is greater than the demand for skilled labor.
 - D. The supply of skilled labor is greater than the supply of unskilled labor.
99. A craft union:
- A. creates a bilateral monopoly of unskilled and skilled workers in an industry.
 - B. organizes workers who have similar skills or jobs in an industry.
 - C. is most concerned with increasing the supply for workers.
 - D. is most effective in a purely competitive industry.
100. Craft unions typically attempt to increase wage rates for their members by:
- A. organizing all of the employees in a factory or industry.
 - B. opposing increases in the minimum wage that benefit nonunion workers.
 - C. supporting regulations and policies that increase the price of complementary resources.
 - D. restricting the supply of skilled workers through worker licensing and training requirements.
101. A union composed of all workers in a given plant or industry is called a(n):
- A. closed shop.
 - B. craft union.
 - C. monopsony union.
 - D. industrial union.
102. Featherbedding refers to
- A. negotiating better fringe benefits than non-union workers.
 - B. one union using a previously negotiated contract as a starting point for its own negotiations.
 - C. firing high-wage workers when the union goes on strike.
 - D. the union requiring the firm to hire more workers than are actually needed to perform a particular task.
103. Which one of the following statements is true?
- A. Firms try to attract unions to their plants and factories.
 - B. Unions are beneficial to all workers.
 - C. Unions tend to negotiate better fringe benefits for their members than what non-union workers receive.
 - D. Many workers are likely to lose their jobs when firms become unionized.

CHAPTER 16

104. The government receives all benefits associated with the production of a public good.
True False

105. The median voter theorem states that the preferences of the median, or middle, voter will dominate the preferences of all other voters.
True False
106. A good that if supplied to one person is supplied to all and whose consumption by one individual does not prevent its consumption by another individual is known as:
A. a private good.
B. a public good.
C. an external good.
D. an internal good.
107. A public goods policy is considered optimal if it:
A. is supported by a majority of voters.
B. equates total costs with total benefits.
C. equates marginal costs with marginal valuations (marginal benefits).
D. forces people to conserve on scarce resources.
108. When you purchase and eat a hamburger, no one else can eat the same hamburger. When you download a file on the Internet, the file is still available for others to download. The difference between hamburgers and computer files is that:
A. the hamburger is excludable whereas the computer file is not.
B. the hamburger is nonexcludable whereas the computer file is not.
C. the hamburger is rival in consumption whereas the computer file is not.
D. the hamburger is nonrival in consumption whereas the computer file is not.
109. Television broadcasts are often given as examples of a public good. However, it is possible to code a broadcast so that only people who pay for the decoder box can view it. The use of a coded signal does what to a television broadcast?
A. Makes it rival
B. Makes it nonrival
C. Makes it exclusive
D. Makes it nonexclusive
110. Since consumption of a public good by one person does not preclude consumption by others, public goods are said to be:
A. nonexclusive.
B. nonrival.
C. exclusive.
D. rival.
111. Public television periodically runs pledge drives to raise money. Only a small percentage of the people who benefit from public television are willing to pay. What do economists call the people who do not pay?
A. Free riders
B. Excludables
C. Adverse selectors
D. Thieves

112. Which of the following does not illustrate the free rider problem?
- A. Amy does not contribute to public television, but she watches it every day.
 - B. Roger refuses to pay for the private security officer who patrols his neighborhood.
 - C. Amanda prefers to check out books from her library rather than purchasing them.
 - D. Al watches fireworks from home instead of buying a ticket to watch in the stadium.
113. Once a public good is provided, those who do not pay cannot be denied the benefits. For this reason, public goods are said to be:
- A. nonexclusive.
 - B. nonrival.
 - C. exclusive.
 - D. rival.
114. The best example of a public good is:
- A. competition.
 - B. government-subsidized lunches.
 - C. pollution.
 - D. national defense.

CHAPTER 17

115. Externalities can be either positive or negative.
True False
116. An example of a negative externality is
- A. Pollution
 - B. An apple orchard increasing the number of trees next to a bee farm
 - C. The Clean Air Act
 - D. A consumer paying too much for an item
117. The level of pollution increases when
- A. A person breathes
 - B. Wastes are dumped into the environment
 - C. Wastes are dumped into the environment at a higher rate than wastes are recycled
 - D. New industrial plant opens
118. The term "marginal social benefit" means
- A. Benefits that are just above the margin of being zero
 - B. The entire benefits obtainable from the activity
 - C. That part of the benefits covered by the costs of carrying on the activity
 - D. The change in total social benefits per unit change in the amount of the activity
119. People have an incentive to pollute when
- A. There is collective consumption of an environmental service
 - B. It is less expensive to pollute than to clean up
 - C. The MPC of polluting < MPC of cleanup
 - D. All of the above

120. The optimal level of pollution control occurs when
- A. Marginal social benefit of control equals marginal social cost
 - B. Marginal social benefit of control just exceeds marginal social cost
 - C. Marginal social benefit of control is less than marginal social cost
 - D. None of the above

CHAPTER 19

121. The United States has a trade deficit when the value of the goods and services we import exceeds the value of the goods and services we export.
True False
122. Domestic producers prefer quotas to tariffs because quotas raise the price of imports and tariffs do not.
True False
123. Tariffs are taxes that governments place on internationally traded goods.
True False
124. A factor that serves as the economic basis for world trade is the uneven distribution of resources among nations.
True False
125. A nation will import a certain product if the world price is less than the domestic price.
True False
126. The principle of comparative advantage indicates that mutually beneficial international trade can take place only when:
- A. tariffs are eliminated.
 - B. transportation costs are almost zero.
 - C. relative costs of production differ between nations.
 - D. a country can produce more of some product than other nations can.
127. Nation X has a comparative advantage in the production of a product compared to nation Y when:
- A. it imposes a tariff on the import of the product.
 - B. the trading possibilities line shifts outward.
 - C. it is achieving full employment of resources.
 - D. it has the lower domestic opportunity cost of the two countries.
128. If nations trade on the basis of comparative advantage
- A. a nation can gain only at the expense of trading partners.
 - B. exporting nations gain and importing nations lose.
 - C. importing nations gain and exporting nations lose.
 - D. all trading partners mutually gain.

129. The United States passes a 50 percent tax on imports of Danish cheese. This is an example of:
- A. a tariff.
 - B. a quota.
 - C. a regulatory trade restriction.
 - D. an embargo.
130. An import quota:
- A. increases both domestic production and domestic prices.
 - B. increases domestic production and reduces domestic prices.
 - C. reduces domestic production and increases domestic prices.
 - D. reduces both domestic production and domestic prices.
131. A quota differs from a tariff in that quotas:
- A. limit the volume of imports more than tariffs.
 - B. do not increase the price of imports as much as tariffs.
 - C. do not generate tax revenues, unlike tariffs.
 - D. reduce consumer welfare more than do tariffs.
132. Imports would be lowered by
- A. tariffs only.
 - B. import quotas only.
 - C. both tariffs and import quotas.
 - D. neither tariffs nor import quotas.
133. The international organization whose primary function is to promote free and fair trade between countries worldwide is the:
- A. WTO.
 - B. IMF.
 - C. NAFTA.
 - D. EU.
134. Dumping is the sale of a product in a foreign market:
- A. at a price below its domestic price or cost of production.
 - B. that does not meet the quality standards in the domestic market.
 - C. and is the principal means used to enforce nontariff barriers.
 - D. and is encouraged by voluntary export restraints.
135. The statement that "tariffs are needed to protect American firms from foreign producers that sell excess goods in the American market at less than cost" would be most closely associated with which anti-trade argument?
- A. Cheap foreign labor
 - B. Protection against dumping
 - C. Diversification for stability
 - D. Increased domestic employment

Solutions to Practice Questions

CHAPTER 8

1. FALSE
2. TRUE
3. TRUE
4. TRUE
5. TRUE
6. B
7. C
8. D
9. A
10. C
11. C
12. A
13. C
14. A
15. C
16. C
17. B
18. D
19. B
20. C
21. B
22. D
23. B
24. A
25. D

CHAPTER 9

26. TRUE
27. FALSE
28. FALSE
29. TRUE
30. TRUE
31. C
32. B
33. D
34. D
35. B
36. D

37. A
38. C
39. D
40. D
41. A
42. A
43. A
44. A
45. A
46. C
47. A
48. D
49. D
50. B

CHAPTER 10

51. TRUE
52. TRUE
53. TRUE
54. FALSE
55. TRUE
56. TRUE
57. TRUE
58. B
59. A
60. A
61. B
62. A
63. A
64. B
65. A
66. A
67. C
68. B
69. B
70. A
71. B
72. C
73. A

74. D
75. A
76. A
77. C
78. C

CHAPTER 11

79. TRUE
80. TRUE
81. FALSE
82. A
83. D
84. B
85. B
86. B
87. C
88. B
89. B
90. B

CHAPTER 12

91. FLASE
92. FALSE
93. D
94. C
95. B
96. C
97. A
98. B
99. B
100. D
101. D
102. D
103. C

CHAPTER 16

104. FALSE

105. TRUE
106. B
107. C
108. C
109. C
110. B
111. A
112. C
113. A
114. D

CHAPTER 17

115. TRUE
116. A
117. C
118. D
119. D
120. A

CHAPTER 19

121. TRUE
122. FALSE
123. TRUE
124. TRUE
125. TRUE
126. C
127. D
128. D
129. A
130. A
131. C
132. C
133. A
134. A
135. B