

Chapter 2: The basics of Supply and Demand

Multiple Choice Questions

1. In what way is consumer demand different from consumer wants?
 - (a) Demand is only for necessities
 - (b) Demand is only for luxuries
 - (c) **Demand takes into account the ability to pay**
 - (d) Consumer wants are only for luxuries
 - (e) Consumer wants are only for necessities
2. When economists speak of the effect of the change in the relative price of a good, they mean
 - (a) how the price has changed relative to what it was in the past
 - (b) how the price has changed relative to individual income
 - (c) **how the price of the good has changed relative to the prices of other goods**
 - (d) that the dollar price of the good has remained constant but income has changed
3. Which of the following statement about demand is true?
 - (a) Since most college students want a Mercedes sports coupe, their demand for it is high
 - (b) If price increases, the demand curve shifts to the right
 - (c) **The demand curve for bacon wont shift when the price of bacon changes**
 - (d) If the supply curve shifts, thereby changing the price, the demand curve will shift as well
 - (e) If the demand curve shifts, the supply curve will shift as well, whether or not the price changes
4. The effects of a decrease in the price of home computers, other things constant, is likely to be best represented by which of the following
 - (a) a leftward shift of the demand curve
 - (b) a movement up along the demand curve
 - (c) a rightward shift in the demand curve
 - (d) **a movement down along the demand curve**
 - (e) a rightward shift in the supply curve
5. Which of the following would NOT cause the demand curve for peaches to shift?
 - (a) an increase in the price of apricots
 - (b) a decrease in the price of nectarines
 - (c) **an increase in the price of peaches**

- (d) a change in preference for peaches
 - (e) a decrease in the income of peach buyers
6. If good B is a complement to good A, then a drop in the price of B
- (a) increases the quantity demanded of A
 - (b) decreases the demand for A
 - (c) **increases the demand for A**
 - (d) decreases the quantity demanded of A
 - (e) will cause the demand for B to increase
7. Which of the following best defined supply?
- (a) the amount of a good that producers want to sell at a particular price
 - (b) the amount of a good that consumers will buy
 - (c) **the amount of a good that producers are willing and able to sell at each possible price, other things constant**
 - (d) the amount of a good that producers are willing to sell at each possible price, other things constant
8. When the supply of a product increases, this implies that
- (a) more will be purchased at the same price
 - (b) the price of the product first declined
 - (c) **demand for the good must have increased**
 - (d) producers will offer less for sale at each possible price
 - (e) producers will be willing to accept a lower price for each unit sold
9. Which of the following will not likely cause a change in the supply of wheat?
- (a) **a government subsidy to farmers who do not grow wheat**
 - (b) an increase in the price of soybeans
 - (c) a decrease in the price of fertilizer
 - (d) a fall in the price of wheat
 - (e) producers expect product prices to rise
10. A surplus occurs when
- (a) **price is greater than equilibrium price**
 - (b) quantity supplied exceeds quantity demanded at the equilibrium price
 - (c) quantity demanded is greater than quantity supplied
 - (d) some of the buyers would be willing and able to pay even more for it than they have to at equilibrium
11. If there is a shortage in the market for automobiles, then

- (a) producers' inventories are rising
 - (b) **prices should begin to rise**
 - (c) the demand curve will shift to restore equilibrium
 - (d) the supply curve will shift to restore equilibrium in the market
 - (e) prices are expected to fall
12. Assume the market for bubble gum is competitive and current conditions yield an equilibrium at a price of 25 cents and a quantity of 100,000 units. Which of the following events would imply a new equilibrium price of 20 cents and quantity of 80,000 units
- (a) an increase in the price of the ingredients used to make the bubble gum
 - (b) an increase in the price of other kinds of gum and candy
 - (c) **a decrease in the number of young people in the population**
 - (d) an agreement by workers in the bubble gum industry to work for lower wages
 - (e) an improvement in bubble gum production technology
13. Suppose demand increases and supply increases. Which of the following must happen?
- (a) equilibrium price increases
 - (b) equilibrium price decreases
 - (c) **equilibrium quantity increases**
 - (d) equilibrium quantity decreases
 - (e) neither equilibrium price nor quantity changes
14. Over the last few years, demand for VCRs has increased, and yet their equilibrium price has fallen. Which of the following best explains the situation
- (a) When prices fall, the quantity supplied increases
 - (b) There has been a shortage in VCRs
 - (c) The supply of VCRs must have decreased
 - (d) The demand curve for VCRs slopes upward, so an increase in demand leads to a lower price
 - (e) **The supply of VCRs must have increased more than the demand for VCRs increased**
15. A market is a social mechanism that
- (a) guarantees that the price is high enough for all firms to cover the costs of production
 - (b) imposes a uniform set of rules about trading across time, product and nation
 - (c) **distributes goods and services to those who are willing and able to pay the market price**
 - (d) ensures that all buyers will be treated fairly by sellers
 - (e) distributes goods and services according to a government plan
16. Which of the following results is likely if the government imposes a maximum price for butter?

- (a) A shortage of butter
 - (b) Queuing
 - (c) A black market
 - (d) **Quality adjustments**
 - (e) All of the above
17. If a price floor is imposed on wheat, what is the most likely consequence?
- (a) **A shortage of wheat**
 - (b) An oversupply of wheat
 - (c) a government imposed quota system
 - (d) Both (b) and (c)
 - (e) None of the above
18. If a law imposing a minimum price for bread is instituted
- (a) the supply of bread will increase
 - (b) the number of bakers will increase
 - (c) **Bakers will be better off**
 - (d) the quality of bread will increase
 - (e) none of the above
19. A supply curve is upward sloping because
- (a) consumers experience diminishing marginal benefit
 - (b) some consumers want goods at higher prices
 - (c) **producers will sell more goods at higher prices**
 - (d) all of the above
 - (e) none of the above
20. A new machine to produce more shoes is developed. What will happen?
- (a) **Supply curve shifts right**
 - (b) Supply curve shifts left
 - (c) Demand curve shifts right
 - (d) Demand curve shifts left
 - (e) None of the above
21. Assume that the market for personal computers is initially in equilibrium. Then there is a significant reduction in the cost of key computer components such as mother boards and disk drives. As a result, we can expect
- (a) **the supply curve for PCs will shift down**
 - (b) the demand curve for PCs will shift down

- (c) the supply curve for PCs will shift up
 - (d) the demand curve for PCs will shift up
 - (e) Both (a) and (d)
22. Which of the following is an example of market failure
- (a) Pork prices in Quebec fall when there is a recession in Asia
 - (b) **Megaloth Intertrans Inc. controls all intercity transport in the country of Ruratania**
 - (c) It is difficult to find work these days in the horse racing business
 - (d) Liquor smuggling
 - (e) All of the above
23. If a law imposing a minimum price of haircuts (above the market price) is instituted, we can expect that:
- (a) The number of haircuts given in a period will rise.
 - (b) The quality of haircuts given will fall.
 - (c) All barbers will be better off.
 - (d) Men will tend to have their haircut more often.
 - (e) **Some barbers will offer under-the-table discounts for haircuts.**
24. A demand curve is downward-sloping because:
- (a) **consumers experience diminishing marginal benefit**
 - (b) some consumers want goods at high prices and others want them at low prices
 - (c) producers will offer more goods on the market the lower the price.
 - (d) consumers benefit from less consumption.
 - (e) consumers value consumer surplus.
25. If Ford raises the price of its cars, the demand for GM cars
- (a) shifts to the left
 - (b) is unaffected
 - (c) becomes more elastic
 - (d) **shifts to the right**
 - (e) becomes vertical
26. What is the best definition of the Law of Supply?
- (a) a % increase in quantity is always greater than a % decrease in price
 - (b) increases in income will cause the quantity supplied to increase (the same for decreases)
 - (c) **increases in price are accompanied by increases in quantity supplied and vice-versa**
 - (d) when the price of a substitute increases the quantity supplied decreases

27. What effect on the market for new cars would occur if Ford and the United Auto Workers signed a new wage contract, giving auto workers smaller health benefits
- (a) increase in the demand for new cars
 - (b) decrease in the supply of new cars
 - (c) **increase in the supply of new cars**
 - (d) decrease in the demand of new cars
28. If Beanie Babies (a stuffed toy animal) and Beanie Baby sleeping bags are complements, and the supply of Beanie Babies increases, the result is
- (a) **an increase in the demand for the sleeping bags**
 - (b) an increase in the demand for Beanie Babies
 - (c) a decrease in the supply of the sleeping bags
 - (d) a decrease in the supply of Beanie Babies
29. Lower expectations of future profits in the automobile industry will cause
- (a) a decrease in the supply
 - (b) **an increase in the supply**
 - (c) an increase in demand
 - (d) a decrease in demand
30. Which of the following statements is not accurate
- (a) **Externalities occur whenever one economic agent affects another**
 - (b) Externalities can be positive
 - (c) Externalities can be negative
 - (d) Pollution can be considered an externality
 - (e) None of the above

Two countries, Chrystalia and Satania have identical marginal private benefit and marginal private cost schedules for electric power generated by burning coal. These schedules are as follows:

Total Quantity(millions of megawatts)	MPB(\$/unit)	MPC(\$/unit)
0	14	1
1	12	1
2	10	1
3	8	2
4	6	3
5	5	5
6	4	6
7	3	7
8	2	8
9	1	9
10	0	10

The people of Chrystalia believe that each megawatt has a marginal social cost equal to twice its marginal private cost, and the government of Chrystalia imposes an electricity tax to achieve allocative efficiency, The people of Satania, on the other hand believe that there is no social costs of producing electric power and there is no government intervention in the market of electricity.

31. How much electricity is generated in Satania?
- (a) 1 million megawatts a day
 - (b) 2 million megawatts a day
 - (c) 3 million megawatts a day
 - (d) 4 million megawatts a day
 - (e) **5 million megawatts a day**
32. What is the price of electricity in Chrystalia?
- (a) \$1
 - (b) \$2
 - (c) \$3
 - (d) \$4
 - (e) **None of the above: MPC=3; MEC=3=tax; MSC=6; therefore P=6**
33. How much tax revenue does the government of Chrystalia collect on the generation of electricity?
- (a) \$4 million
 - (b) \$8 million
 - (c) \$10 million
 - (d) **\$12 million**
 - (e) \$16 million
34. Clearance of snow from roads in Canada is described as:
- (a) a negative externality.
 - (b) a monopoly.
 - (c) a positive externality.
 - (d) supply management.
 - (e) a **public good.**
35. Why is it important to identify externalities?
- (a) because they are the unattainable points beyond the production possibilities boundary.
 - (b) because they defined efficient economic transactions.
 - (c) because knowing what externalities are helps economists to identify what internalities are.
 - (d) **because they prevent markets from allocating resources efficiently**

- (e) because prices in markets with externalities reflect better the information contained in the demand and supply for the commodity
36. If the benefits of society of students attending college exceed benefits to the student,
- (a) higher education should be strictly regulated
 - (b) higher education should be taxed
 - (c) **higher education provides a positive externality.**
 - (d) higher education is overproduced at the privately determine equilibrium
 - (e) in time, no higher education will be produced

Practice Problems

1. American Mining Company is interested in obtaining quick estimates of the supply and demand curves for coal. The firm's research department informs you that the elasticity of supply is approximately 1.7, the elasticity of demand is approximately -0.85, and the current price and quantity are \$41 and 1,206, respectively. Price is measured in dollars per ton, quantity the number of tons per week.
 - (a) Estimate linear supply and demand curves at the current price and quantity.
 - (b) What impact would a 10% increase in demand have on the equilibrium price and quantity?
 - (c) If the government refused to let American raise the price when demand increased in (b) above, what shortage is created?

2. In a city with a medium sized population, the equilibrium price for a city bus ticket is \$1.00, and the number of riders each day is 10,800. The short-run price elasticity of demand is -0.60, and the short-run elasticity of supply is 1.0.
 - (a) Estimate the short run linear supply and demand curves for bus tickets.
 - (b) If the demand for bus tickets increased by 10% because of a rise in the world price of oil, what would be the new equilibrium price of bus tickets?
 - (c) If the city council refused to let the bus company raise the price of bus tickets after the demand for tickets increases (see (b) above), what daily shortage of tickets would be created?
 - (d) Would the bus company have an incentive to increase the supply in the long run given the city council's decision in (c) above? Explain your answer.

3. The U.S. Department of Agriculture is interested in analyzing the domestic market for corn. The USDA's staff economists estimate the following equations for the demand and supply curves:

$$Q_d = 1,600 - 125P$$

$$Q_s = 440 + 165P$$

Quantities are measured in millions of bushels; prices are measured in dollars per bushel.

- (a) Calculate the equilibrium price and quantity that will prevail under a completely free market.

- (b) Calculate the price elasticities of supply and demand at the equilibrium values.
- (c) The government currently has a \$4.50 bushel support price in place. What impact will this support price have on the market? Will the government be forced to purchase corn under a program that requires them to buy up any surpluses? If so, how much?

Chapter 3&4: Consumer Behavior and Demand

Multiple Choice Questions

1. The assumption of transitive preferences implies that indifference curves must:
 - (a) **not cross one another.**
 - (b) have a positive slope.
 - (c) be L-shaped.
 - (d) be convex to the origin.
 - (e) all of the above.

2. If a market basket is changed by adding more of at least one good, then rational consumers will:
 - (a) **rank the market basket more highly after the change.**
 - (b) more likely prefer a different market basket.
 - (c) rank the market basket as being just as desirable as before.
 - (d) be unable to decide whether the first market basket is preferred to the second or vice versa.
 - (e) have indifference curves that cross.

3. An upward sloping indifference curve defined over two goods violates which of the following assumptions from the theory of consumer behavior?
 - (a) transitivity.
 - (b) preferences are complete.
 - (c) **more is preferred to less.**
 - (d) all of the above.
 - (e) none of the above.

4. Indifference curves are convex to the origin because of:
 - (a) transitivity of consumer preferences.
 - (b) **the assumption of a diminishing marginal rate of substitution.**
 - (c) the assumption that more is preferred to less.
 - (d) the assumption of completeness.
 - (e) none of the above

5. Which of the following is true about the indifference curve where one commodity (such as pollution) is **bad**?
 - (a) **It is convex to the origin.**
 - (b) It is downward sloping.
 - (c) It is upward sloping.
 - (d) It is L-shaped.
 - (e) It is not defined.

- (a) It has a negative slope.
 - (b) **It has a positive slope.**
 - (c) It is horizontal.
 - (d) It is vertical.
6. If indifference curves are concave to the origin, which assumption on preferences is violated?
- (a) **Diminishing marginal rates of substitution**
 - (b) Transitivity of preferences
 - (c) More is preferred to less
 - (d) Completeness
7. Envision a graph with meat on the horizontal axis and vegetables on the vertical axis. A strict vegetarian would have indifference curves that are:
- (a) vertical lines.
 - (b) **horizontal lines.**
 - (c) diagonal straight lines.
 - (d) right angles.
 - (e) upward sloping.
8. Consider a consumer maximizing utility over two goods x_1 and x_2 . Assume further that the consumer can choose among the following three bundles:
- $A = (8, 12)$
 $B = (14, 7)$
 $C = (8, 9)$
- If bundles A and B are on the same indifference curve and the indifference map that the consumer faces exhibit diminishing MRS, then
- (a) C is preferred to both A and B
 - (b) **A and B are both preferred to C**
 - (c) C is on the same indifference curve as A and B
 - (d) all of the above could be true
 - (e) There is not enough information to determine the consumer's preference
9. Consider a consumer maximizing utility over two goods; coffee and muffins. A cup of coffee costs \$2 and a muffin costs \$1. At the optimum choice, the marginal utility derived from the amount of coffee consumed is 10 utils. The marginal utility of the muffin consumed is then
- (a) 20 utils
 - (b) **5 utils**
 - (c) not enough information
10. Which of the following is true at each point along a price consumption curve?

- (a) Utility is maximized, and income is decreasing
 - (b) Utility is maximized, and all income is spent**
 - (c) All income is spent, and utility is not maximized
 - (d) The level of utility is constant
 - (e) Income is increasing
11. Consider two goods, X and Y . If the income consumption curve has a negative slope, when X is on the horizontal axis and Y is on the vertical axis, this implies
- (a) Both goods are normal
 - (b) Both goods are inferior
 - (c) Good X is normal and good Y is inferior**
 - (d) Good X is inferior and good Y is normal
 - (e) Either (c) or (d) could be correct
12. The substitution effect of a price change for a product X is the change in consumption of X associated with a change in
- (a) the price of X , with the level of utility constant**
 - (b) the price of X , with the level of real income constant
 - (c) the price of X , with the price of other good changing by the same percentage as that for X
 - (d) the purchasing power, with the price held constant
13. The income consumption curve for Emma between Q_a and Q_b is given as $Q_a = Q_b$. Her budget constraint is given as

$$120 = Q_a + 4Q_b$$

How much Q_a will Emma consume to maximize her utility

- (a) 0
 - (b) 24**
 - (c) 30
 - (d) 60
 - (e) More information is needed
14. Suppose the demand for good x is given as

$$Q_x = 200 - 4P_x$$

What is the elasticity of demand if the price of the good is \$10?

- (a) 0
- (b) -0.25**
- (c) -0.35
- (d) -4

- (e) $-\infty$
15. Monica consumes only two goods A and B. Suppose her marginal utility (MU) from consuming good A is equal to $1/Q_a$ and her marginal utility from consuming good B is $1/Q_b$. If the price of A is \$0.50, the price of B is \$4 and Monica's income is \$120, how much of good A will she purchase?
- (a) 0
 (b) 12
 (c) 24
 (d) 48
 (e) **120**
16. A local retailer has decided to carry a well known brand of shampoo. The marketing department tells him that the quantity demanded by an average man is $Q^d = 3 - 0.25P$ and the quantity demanded by an average woman is $Q^d = 4 - 0.5P$. The market consists of 10,000 men and 10,000 women. How many bottles of shampoo can they expect to sell if they charge \$6 per bottle?
- (a) 20,000
 (b) 33,000
 (c) **25,000**
 (d) 10,000
 (e) 40,000
17. Price ceiling can result in a net loss in consumer surplus when _____ is _____
- (a) demand; very elastic
 (b) **demand, very inelastic**
 (c) supply, very elastic
 (d) supply, very inelastic
 (e) None of the above is true; price ceiling always increase the consumer surplus
18. An individual moves down and to the right along his demand curve:
- (a) The MRS increases and the level of utility increases
 (b) The MRS decreases and the level of utility decreases
 (c) The MRS increases and the level of utility decreases
 (d) **The MRS decreases and the level of utility increases**
19. If the price of a good is 0, a consumer will
- (a) consume all units that have positive total utility
 (b) consume an infinite quantity
 (c) **consume all units with positive marginal utility**
 (d) consume the entire amount supplied

- (e) consume until total utility becomes 0
20. As price falls along a given demand curve for pretzels,
- (a) quantity demanded, total utility, marginal utility, and consumer surplus increase; consumer expenditure decreases
 - (b) quantity demanded, total utility, and consumer surplus increase; marginal utility and consumer surplus decrease
 - (c) **quantity demanded, total utility, consumer surplus, and consumer expenditure increase; marginal utility decrease**
 - (d) quantity demand, total utility, marginal utility, consumer surplus, and consumer expenditure all increase
21. Suppose I am willing to pay \$300 for a pair of Rollerblades and I purchase them on sale for \$200. My consumer surplus is
- (a) \$300
 - (b) 3/2
 - (c) **\$100**
 - (d) \$200
 - (e) \$0

22. Mary derives utility from consuming three goods: Apples, Bagels, and Cappuccino. The quantities and the associated marginal utilities are found in the following table

Quantity	MU of Apples	MU of Bagels	MU of Cappuccino
1	50	90	160
2	40	80	140
3	33	60	100
4	25	50	60
5	15	20	20

Suppose that Maria has \$5 to spend on lunch. If apples are priced at \$0.50 each, bagels at \$1 each, and cappuccino at \$2 each, how should she allocate her spending so as to maximize her total utility? (Hint: Find the optimal choice given the budget constraint)

- (a) 2 apples and 4 bagels
 - (b) **2 apples, 2 bagels and 1 cappuccino**
 - (c) 2 apples and 2 cappuccinos
 - (d) 1 bagel and 2 cappuccinos
 - (e) None of the above
23. Referring to the previous table, if Mary has \$5 to spend on lunch, and apples are priced at \$0.50 each, bagels at \$1 each, and cappuccino at \$2 each, and if she allocates her spending so as to maximize her total utility, what will be her total utility?
- (a) 393 utils
 - (b) **420 utils**

- (c) 500 utils
 - (d) 548 utils
 - (e) 555 utils
24. Imagine a graph with meat on horizontal axis and vegetables on the vertical axis. A strict vegetarian would have an indifference curve that is
- (a) vertical
 - (b) **horizontal**
 - (c) diagonal straight lines
 - (d) right angles
 - (e) upward sloping
25. Which of the following is true regarding income along a price-consumption curve?
- (a) Income is increasing.
 - (b) Income is decreasing.
 - (c) **Income is constant.**
 - (d) The level of income depends on the level of utility.
26. If an Engel curve has a positive slope
- (a) both goods are normal.
 - (b) **the good on the horizontal axis is normal**
 - (c) as the price of the good on the horizontal axis increases, more of both goods is consumed.
 - (d) as the price of the good on the vertical axis increases, more of the good on the horizontal axis is consumed.
27. The income-consumption curve for Dana between Q_a and Q_b is given as: $Q_a = Q_b$. His budget constraint is given as: $120 = Q_a + 4Q_b$. How much Q_a will Dana consume to maximize utility?
- (a) 0
 - (b) **24**
 - (c) 30
 - (d) 60
 - (e) More information is needed to answer this question
28. Suppose that a consumer regards two types of soap as perfect substitutes for one another. The price consumption path generated by changing the price of one type of soap
- (a) is always upward sloping.
 - (b) is always horizontal.
 - (c) is always vertical.
 - (d) **corresponds with the axis for the cheaper soap.**

- (e) corresponds with the axis for the more expensive soap.
29. For an inferior good, the income and substitution effects
- (a) work together.
 - (b) **work against each other.**
 - (c) can work together or in opposition to each other depending upon their relative magnitudes.
 - (d) always exactly cancel each other.
30. The substitution effect of a price change for product X is the change in consumption of X associated with a change in
- (a) **the price of X, with the level of utility held constant.**
 - (b) the price of X, with the level of real income not considered.
 - (c) the price of X, with the prices of other goods changing by the same percentage as that for product X.
 - (d) income, with prices of other goods held constant.
31. Which of the following claims is true at each point along a price-consumption curve?
- (a) Utility is maximized but income is not all spent.
 - (b) All income is spent, but utility is not maximized.
 - (c) **Utility is maximized, and all income is spent.**
 - (d) The level of utility is constant.

Chapter 6&7: Production and Cost

Multiple Choice Questions

1. A firm has fixed cost of \$500 and constant marginal cost of \$50 per unit. When 100 units are produced, total cost equals
- (a) \$550
 - (b) \$1000
 - (c) \$5000
 - (d) **\$5500**
 - (e) more information is needed
2. For any given level of output
- (a) marginal cost must be greater than the average cost
 - (b) average variable cost must be greater than the average fixed cost
 - (c) average fixed cost must be greater than variable cost
 - (d) fixed cost must be greater than the variable cost
 - (e) **none of the above is necessarily true**

3. Cost output elasticity equals 0.8. This implies that:
- (a) there are neither economies nor diseconomies of scale
 - (b) **there are economies of scale**
 - (c) there are diseconomies of scale
 - (d) there are diseconomies of scope
 - (e) marginal cost is more than average cost
4. Which always increases as output increases?
- (a) Marginal cost
 - (b) Total fixed cost
 - (c) Total cost
 - (d) Total variable cost
 - (e) **Both (c) and (d) are true**
5. The average total cost to produce 100 cookies is \$0.25 per cookie. The marginal cost is constant at \$0.10 for all cookies produced. The total cost to produce 50 cookies equals:
- (a) **\$20 (Hint: Think about two points and a slope)**
 - (b) \$25
 - (c) \$50
 - (d) \$60
 - (e) None of the above is correct
6. Consider the following statements when answering this question:
- I. If a technology exhibits economies of scale, then it also exhibits increasing returns to scale
 - II. If a technology exhibits decreasing returns to scale, then it also exhibits diseconomies of scale
- (a) I is true and II is false
 - (b) **II is true and I is false (Hint: it is one way not both ways)**
 - (c) Both are true
 - (d) Both are false
7. Diminishing marginal returns means that
- (a) as more labor is used in production, holding capital constant, marginal product of capital decreases
 - (b) as more labor is used in production, holding capital constant, marginal product of capital increases
 - (c) **as more labor is used in production, holding capital constant, marginal product of labor decreases**
 - (d) as more labor is used in production, holding capital constant, marginal product of capital increases

8. Which of the following statements are true?
- (a) If MP_L is declining, then AP_L is always increasing in that output range
 - (b) If MP_L is declining, then AP_L is always declining in that output range
 - (c) **If MP_L is declining, then AP_L could be increasing or could be declining in that output range**
 - (d) If AP_L is increasing, then MP_L is always increasing in that output range
 - (e) If AP_L is increasing, then MP_L is always declining in that output range
9. The cost output elasticity is used to measure
- (a) returns to scale
 - (b) **economies of scale**
 - (c) marginal cost
 - (d) none of the above
10. The marginal rate of technical substitution is equals to the
- (a) slope of the total product curve
 - (b) change in output minus change in labor
 - (c) change in output divided by change in labor
 - (d) **ratio of marginal products of the inputs**
 - (e) ratio of prices
11. Increasing returns to scale in production means
- (a) more than 10% as much of all inputs are required to increase output by 10%
 - (b) **less than twice as much of all inputs are required to double output**
 - (c) more than twice as much of only one input is required to double output
 - (d) isoquants must be linear
 - (e) none of the above
12. In a short run production process, the marginal cost is rising and the average total cost is falling as output is increased. Thus, marginal cost is
- (a) **below average total cost**
 - (b) above average total cost
 - (c) between the average variable and average total cost curves
 - (d) below average fixed cost
 - (e) none of the above
13. Technological improvement
- (a) can hide the presence of diminishing returns
 - (b) can be shown as a shift in the total product curve

- (c) allows more output to be produced with the same combinations of inputs
 (d) **All of the above are true**
 (e) Only (a) and (c) are true
14. Diminishing marginal returns means that:
- (a) **As more capital is used in production, holding labour constant, the marginal product of capital falls**
 (b) As labour increases and capital decreases along a given isoquant, the marginal rate of technical substitution increases
 (c) If capital and labour both double, output increases by less than double
 (d) Both (a) and (b) are true
 (e) Both (a) and (c) are true
15. If labor is the only variable input, marginal product reaches its maximum:
- (a) At the point where the average product curve is horizontal
 (b) At the point where average product equals marginal product
 (c) **At the inflection point of the total product curve**
 (d) At the point where the total product curve turns down
 (e) None of the above is correct
16. A firm maximizes profit by operating at the level of output where
- (a) average revenue equals average cost
 (b) average revenue equals average variable cost
 (c) total cost is minimized
 (d) **marginal revenue equals marginal cost**
 (e) marginal revenue exceeds marginal cost by the greatest amount
17. The marginal rate of technical substitution equals
- (a) the absolute value of the slope of an isoquant
 (b) the ratio of the marginal products of the inputs
 (c) the ratio of the prices of the inputs
 (d) **only (a) and (b) are true**
 (e) All of (a), (b), and (c) are true
18. If marginal cost is greater than average variable cost
- (a) average fixed cost must be increasing with output
 (b) average total cost must be increasing with output
 (c) average variable cost must be increasing with output
 (d) **only (b) and (c) are true**

(e) All of (a), (b) and (c) are true

19. Consider the following data when answering this question

Input Combination	Output	Labor	Capital
A	100	20	40
B	250	40	80
C	600	90	180
D	810	126	252

(a) There are increasing returns to scale between A and B

(b) There are increasing returns to scale between B and C

(c) There are increasing returns to scale between C and D

(d) **Both (a) and (b) are true**

(e) Both (a) and (c) are true

20. A sparkling water bottler finds that producing 2000 cases of canned water and 3000 cases of bottled water in a large facility costs \$1000. The cost of producing 2000 cases of canned water in his canning facility costs \$500. The cost of producing 3000 cases of bottled water in his bottling facility costs \$700. This production process exhibits

(a) Increasing returns to scale

(b) **Economies of scope**

(c) Diminishing returns

(d) Both (a) and (b) are true

(e) Both (a) and (c) are true

Chapter 8&9: The Analysis of Competitive Markets

Multiple Choice Questions

1. What happens in a perfectly competitive industry when economic profit is greater than zero?

(a) Existing firms may get larger

(b) new firms may enter the industry

(c) firms may move along their long run average cost curves to new outputs

(d) there may be pressures on prices to fall

(e) **all of the above may occur**

2. Bette's breakfast, a perfectly competitive restaurant, sells its "breakfast special" for \$5. The costs of waiters, cooks, power, food, etc average out to \$3.95 per meal. The costs of the lease, insurance, and other such expenses average out to \$1.25 per meal. Bette should:

(a) close the restaurant immediately

(b) continue operating in the short run and long run

(c) **continue operating in the short run, but plan to go out of business in the long run**

- (d) raise the price of a meal above the perfectly competitive price
 - (e) lower the output
3. Price ceilings are insufficient because:
- (a) both producers and consumers lose
 - (b) **producers lose, consumers may gain or lose, but a net loss occurs.**
 - (c) producers lose, consumers gain, but a net loss occur
 - (d) producers and consumers may gain or lose, but a net losses occurs
 - (e) none of the above is correct
4. Which of the following results is likely if the government imposes a price ceiling for milk
- (a) A shortage of milk
 - (b) Queuing
 - (c) Coupon system
 - (d) **(a), (b), and (c)**
 - (e) None of the above

On Turtle Island, the egg marketing board is considering ways of stabilizing farm prices and farm revenues. Currently the egg market is competitive and the demand for and supply of eggs is as follows

Price/dozen	Quantity Demanded	Quantity Supplied
1.20	3000 dozens	2000
1.30	2750	2250
1.40	2500	2500
1.50	2250	2750
1.60	2000	3000

Refer to the previous information in answering questions 5, 6, and 7

5. The competitive equilibrium price
- (a) 1.20
 - (b) 1.30
 - (c) **1.40**
 - (d) 1.50
 - (e) 1.60
6. The egg marketing board introduces a floor price of \$1.60 a dozen. What is the surplus of eggs?
- (a) **1000 dozens**
 - (b) 1250 dozens
 - (c) 2000 dozens
 - (d) 2225 dozens

(e) 3000 dozens

7. Refer to the initial situation. The egg marketing board decides to introduce a subsidy of 20 cents a dozen. If this occurs, the equilibrium price will be

(a) 1.20

(b) **1.30**

(c) 1.40

(d) 1.50

(e) Non of the above

The following graph is needed for questions 8 and 9

8. Which areas represent the welfare loss?

(a) 1

(b) 2 3

(c) 4 5

(d) 3 5

(e) 6

9. Which areas represent the producer surplus?

(a) 1 2 3

(b) 4 5 6

(c) 2 4 6

(d) 4 5 6

(e) 1 2 4

10. The fact, as a rule, that consumers of a commodity pay the same price

(a) is the basis of the existence of consumer surplus

(b) is the basis of the existence of producer surplus

(c) is the basis for Canadian competition policy

(d) **Both (a) and (b) above**

(e) (a), (b) and (c)

11. Consumer surplus measures

(a) the area above the supply curve up to the market price

(b) the additional amount that a consumer must pay to obtain a marginal unit of a good or service

(c) the excess consumer demand that exists when a price ceiling holds price below the equilibrium level

(d) **the benefit that consumers receive from a good or service beyond what they pay**

(e) non of the above

Refer to the following information in answering questions 12 and 13 which follow:

The marginal cost of producing butter is \$1 per kilo. This marginal cost is constant over a broad range of production. Demand, on the other hand, does vary. To stabilize the market, the government has just set a floor price of \$1.40. As part of this stabilization program, the government has also decided that only farmers who are currently producing butter will be limited to producing (and selling) 100,000 kilos butter per year. Following the imposition of this new program, sales of butter in the market have fallen. The interest rate for dairy (including butter) for farmers is 20%

12. The government's restriction on the supply of butter is imposed primarily because

(a) the government believes we eat much butter

(b) the government wants to promote margarine production

(c) the government wants to punish butter producers

(d) **the government wants to ensure that the price of butter does not fall**

(e) the government wants to ensure that the price of butter does not rise

13. A butter-producing farmer selling his or her farm (including the right to produce 100,000 kilos of butter annually) after the introduction of the stabilization program described above can expect that the price of the farm - as compared to the farm's expected selling price before production restrictions were put in place - will be

(a) no different

(b) lower by 20%

(c) higher by about \$40,000

(d) higher by about \$140,000

(e) **higher by about \$200,00**

Refer to the this diagram in answering questions 14,15, and 16 which follows

14. In the above diagram, the value of consumers surplus in the market in the initial equilibrium (using the initial supply curve) is
- (a) \$30
 - (b) \$50
 - (c) **\$2,100**
 - (d) \$3,000
 - (e) \$4,900
15. In the above diagram, the best explanation for the shift of the supply curve from its initial position to its subsequence position is
- (a) the introduction of a subsidy of the products.
 - (b) the introduction of support price by the government.
 - (c) an increase in economic rent in the industry.
 - (d) **the introduction of a tax on the product.**
 - (e) None of the above.
16. In the above diagram, the measure of the welfare loss associated by changes in market conditions with the shift in the supply curve is
- (a) **\$300**
 - (b) \$1,000
 - (c) \$1,500
 - (d) \$2,800
 - (e) \$4,000
17. Which of the following will increase consumer surplus
- (a) **increase in supply**
 - (b) decrease in supply
 - (c) decrease in demand

- (d) both (c) and (b)
18. Which statement about economic profit is true:
- (a) **economic profit is smaller than accounting profit**
 - (b) economic profits are always zero
 - (c) economic profits do not account for opportunity costs
 - (d) economic profit may be calculated with the following formula
- $$(P - TC)q$$
19. If the equilibrium price is \$25 then setting a price floor
- (a) would cause a shortage if the floor was set at \$20
 - (b) would have no effect if the floor was set at \$20
 - (c) would cause a surplus if the floor was set at \$30
 - (d) both (a) and (c) are possible
 - (e) **both (b) and (c) are possible**
20. In market Z, supply grows at a quicker rate than demand because of constant technological change. If a price ceiling is placed below the equilibrium price in market Z, then what effect do you expect to see if the ceiling is left unchanged for a period of 10 years
- (a) a worsening shortage over time
 - (b) a worsening surplus over time
 - (c) **a lessening shortage over time, which may eventually be zero**
 - (d) a lessening surplus over time, which may eventually be zero
 - (e) no effect now, so no effect later on either
21. when a per unit tax is imposed on domestic compact car producers, what is the result
- (a) decrease in demand
 - (b) increase in demand
 - (c) increase in supply
 - (d) **decrease in supply**
22. When a per unit tax is imposed on broccoli and candy bars, if the demand curve for candy bars is more elastic than the demand curve for broccoli, we would expect that:
- (a) consumers bear a greater burden of the per unit tax on candy bars than on broccoli
 - (b) **consumers bear a greater burden of the per unit tax on broccoli than on candy bars**
 - (c) consumers always bear all of the burden from any sales tax
 - (d) the quantity demanded for candy bars will rise by more than that for broccoli
23. A per unit tax is placed on the suppliers of a certain product. If the demand curve for this product is completely horizontal, then what do you expect to happen

- (a) **suppliers will bear the entire burden of the tax, consumer will bear nothing**
 - (b) consumers will bear the entire burden of the tax, producer will bear nothing
 - (c) consumers and suppliers will each bear some of the tax burden
 - (d) the consumers will bear a greater burden from the tax than the suppliers
24. Consumer equilibrium occurs when
- (a) a consumer is inside their budget constraint
 - (b) a consumer's income is equal to their expenditure
 - (c) **the benefit from purchasing the last unit of a good is equal to its price**
 - (d) the total benefit from purchasing the good is equal to the total amount spent
 - (e) both (c) and (d) are true
25. If a price ceiling is set below the equilibrium price
- (a) a supplier can discriminate in terms of who gets the good
 - (b) the demand for substitutes will increase
 - (c) higher incomes will cause the shortage to worsen (if the product is a normal good)
 - (d) **all of the above**

The following information is given on the table furniture market

Price	Demand	Supply
200	80,000	0
300	60,000	20,000
400	40,000	40,000
500	20,000	60,000
600	10,000	80,000

26. The equilibrium price is
- (a) 200
 - (b) 300
 - (c) **400**
 - (d) 500
 - (e) 600
27. Now suppose a price floor is established at \$500. The quantity of tables demanded is 20,000; what will happen to the supply?
- (a) Shortage of 40,000
 - (b) **Excess of 40,000**
 - (c) Shortage of 60,000
 - (d) Excess of 60,000
 - (e) None of the above

28. A perfect competitive firm will produce output in the short run even if it makes losses, i.e., even if $P < ATC$ because
- (a) as long as $P \geq MC$, the firm can still operate as it is losing its fixed cost.
 - (b) as long as $P \geq AVC$, the firm can still operate as it can minimize its losses.**
 - (c) if $P < ATC$, there is accounting profits.
 - (d) fixed costs are avoidable in the short run.
29. If a profit-maximizing firm's marginal revenue is greater than its marginal cost, the firm
- (a) must be making economic profit
 - (b) will decrease its output
 - (c) will increase its output**
 - (d) must be experiencing economic losses
 - (e) will shut down
30. In the short run, a perfectly competitive firm's break-even point ($P = ATC$) occurs at
- (a) an output level greater than the shut down level of output**
 - (b) an output level smaller than the shut down level of output
 - (c) a lower price than the shutdown point
 - (d) the same price as the shutdown point
31. A perfectly competitive firm is maximizing profit if
- (a) AVC is at a minimum
 - (b) ATC is at a minimum
 - (c) total revenue is maximized
 - (d) marginal cost equals price and price is above minimum AVC
 - (e) marginal cost equals price and price is above minimum AVC**
32. A profit-maximizing firm in a competitive market is currently producing 100 units of output. It has average revenue of \$10, and its average total cost is \$8. It follows that the firm's
- (a) ATC curve intersects the MC curve at an output level of less than 100 units.
 - (b) AVC intersects the MC curve at an output level of less than 100 units.
 - (c) profit is \$200
 - (d) all of the above are correct**
33. A firm in a competitive market has the following cost structure:
- | Output (units) | Total Cost (\$) |
|----------------|-----------------|
| 0 | 5 |
| 1 | 10 |
| 2 | 12 |
| 3 | 15 |
| 4 | 24 |
| 5 | 40 |
- The firm will shut down

- (a) if price falls below \$3.33 and exit if it falls below \$5.
 - (b) if price falls below \$5 and exit if it falls below \$3.33
 - (c) if price falls below \$7 and exit if it falls below \$10.
 - (d) and exit if price falls below \$5.
34. The short run supply curve of a firm operating in a perfectly competitive market is the upward-sloping part of its
- (a) average variable cost curve, at all points above its minimum.
 - (b) marginal cost curve, at all points above the minimum point of the average fixed cost.
 - (c) **marginal cost curve, at all point above the point of minimum average variable cost.**
 - (d) marginal revenue curve, at all points above the point of minimum average revenue.
 - (e) marginal revenue curve, at all points above the point of minimum average total cost.

Chapter 16: General Equilibrium and Economic Efficiency

Multiple Choice Questions

1. In an Edgeworth box, all points of consumer efficiency occur at:
 - (a) the intersection of the sets of indifference curves
 - (b) **the points of tangency between the sets of indifference curves**
 - (c) the midpoint of the diagram
 - (d) the points other than the intersection of the sets of indifference curves

2. Suppose we are analyzing the exchange of two goods, Fudge (F) and Chocolate (C), between two individuals, Michael and Kelly. Michael and Kelly have MRS of F for C equal to 0.5 and 3 respectively. The MRS of F for C at the efficient allocation could equal
 - (a) 0.5
 - (b) 1
 - (c) 2
 - (d) 3
 - (e) **All of the above could be true**

3. The contract curve in an Edgeworth box illustrates
 - (a) the only efficient allocation of goods among individuals
 - (b) **all possible efficient allocations of goods among individuals**
 - (c) all equitable distribution of goods among individuals
 - (d) the only equitable distribution of goods among individuals

4. If an allocation is Pareto efficient:
 - (a) no trade can make both individuals better off

- (b) It lies on the contract curve
 - (c) both individuals are better off than their initial endowments
 - (d) **(a) and (b)**
 - (e) (a), (b), and (c)
5. A partial Pareto improvement consists of
- (a) achieving an efficient allocation of resources
 - (b) reallocation of resources were the winners compensate the losers
 - (c) making everyone in society better off
 - (d) reallocation of resources to the poor
 - (e) None of the above
6. Price control (price ceilings) are Pareto inefficient essentially because
- (a) administering a system of ration coupons is expensive
 - (b) it creates economic inequality
 - (c) **the marginal valuation of consumers is greater than the marginal valuation of producers**
 - (d) there tends to be a dilution of product or service quality
 - (e) non of the above
7. Gasoline and bicycles are complements in consumption. Suppose we increase the federal gasoline tax to \$1 per gallon. Initially, the gasoline price rises due to the tax, and the demand curve for bicycles shifts rightward because these goods are complements. Then, the bicycle price rises, and the demand curve for gasoline shifts rightward. Assuming the general equilibrium is achieved in both markets after these two steps, which of the following statements is NOT true?
- (a) Partial equilibrium analysis only focuses in the first-round changes in the gasoline market (ignoring the secondary effects that arise from changes in the bicycle market).
 - (b) Partial equilibrium analysis would predict a larger shift in the price and quantity demanded for gasoline than a general equilibrium analysis.
 - (c) **The price increase in gasoline is larger under the general equilibrium approach, but the change in the quantity of gasoline demanded is smaller than under partial equilibrium analysis.**
 - (d) All of these statements are true
8. To be certain that exchange between people is mutually beneficial, we generally assume
- (a) not all people are free to enter the market at will, but once in they are free to make any offer to trade.
 - (b) all people have complete information about each other's preferences.
 - (c) there are no transaction costs.
 - (d) **both B and C**

- (e) both A and B
9. A move from one point on a contract curve to another point on the contract curve will make
- both individuals better off.
 - both individuals worse off.
 - one individual better off and the other individual worse off.**
 - the goods more expensive
10. Why does perfect competition guarantee a Pareto optimal distribution of goods between two people? Under perfect competition,
- everyone has the same preferences.
 - everyone faces the same prices.**
 - everyone consumes the same quantity of both goods.
 - goods are homogeneous.
11. Pareto Optimality is an important concept in economic and political policy analysis:
- Because it the best kind of optimality.
 - Because it allows policy makers to avoid making interpersonal comparisons.**
 - Because it ensures that no one in society is badly off.
 - Because it justifies increase government intervention in markets.
 - None of the above.
12. Suppose there are 10 apples and 10 oranges in the economy. Joe is currently consuming 4 apples and 5 oranges, and Jane is consuming 6 apples and 5 oranges. At this allocation, Joe's marginal utility of apples is 3, and his marginal utility of oranges is 5. Jane's marginal utility of apples is 9. The current allocation is necessarily efficient if:
- the price of apples is 60% of the orange price.
 - Jane's marginal utility of oranges is 6 at this point.
 - Joe's MRS equal the MRT.
 - Jane's marginal utility of oranges is 15 at this point.
13. Why is the production possibilities frontier concave to (bowed away from) the origin?
- Consumers have declining marginal utility, so their relative satisfaction from consuming a good changes as they move from high levels to low levels of consumption.
 - The shape of the curve is due to the marginal costs of producing the two goods. At high levels of output for a particular good, the marginal cost is very high, and the firm can use the same inputs to produce a relatively large quantity of the other good.**
 - For a production possibilities frontier, we no longer assume firms are price takers, and the input prices and output prices change as the firms alter their mix of outputs.
 - none of the above

14. Suppose an economy produces milk and honey, and milk is plotted along the horizontal axis of the production possibilities frontier. If the production in the economy is centrally planned (and not market oriented) so that the MRS for the current production level is 3 but the MRT is 2, then there will be an excess _____ for milk and an excess _____ for honey.

- (a) **demand, supply**
 (b) demand, demand
 (c) supply, demand
 (d) supply, supply
 (e) The market is in equilibrium, and there are no imbalances in supply or demand.

Hours of Labor Required to Produce		
	Tomatoes (1 lb.)	Beer (1 gal.)
Guatemala	6	3
Mexico	2	2

15. Refer to Table 16.1. Which of the following statements is TRUE?
- (a) Guatemala has an absolute advantage in producing tomatoes.
 (b) Guatemala has an absolute advantage in producing beer.
 (c) **Guatemala has a comparative advantage in producing beer.**
 (d) Guatemala has a comparative advantage in producing tomatoes.
 (e) all of the above
16. Refer to Table 1. Use the following statements to answer this question.
- I. Mexico has an absolute advantage in the production of tomatoes and beer.
 II. Mexico has a comparative advantage in the production of tomatoes.
- (a) **Both I and II are true.**
 (b) I is true, and II is false.
 (c) I is false, and II is true.
 (d) Both I and II are false.
17. Refer to Table 1. Which of the following statements is correct?
- (a) **There are potential gains from trade if: (1) Mexico specializes in the production of tomatoes, (2) Guatemala specializes in the production of beer, and (3) Mexico trades tomatoes to Guatemala for beer.**
 (b) There are potential gains from trade if: (1) Mexico specializes in the production of beer, (2) Guatemala specializes in the production of tomatoes, and (3) Mexico trades beer to Guatemala for tomatoes.
 (c) There are no potential gains from trade because Mexico has an absolute advantage in the production of beer and tomatoes.
 (d) There are no potential gains from trade because Guatemala has an absolute advantage in the production of beer and tomatoes.

18. Refer to Table 1. Use the following statements to answer this question.

I. Trade between Mexico and Guatemala will allow Mexico to consume a combination of tomatoes and beer outside of Mexico's production possibilities frontier.

II. Trade between Mexico and Guatemala will allow Guatemala to consume a combination of tomatoes and beer outside of Guatemala's production possibilities frontier.

(a) **Both I and II are true.**

(b) I is true, and II is false.

(c) I is false, and II is true.

(d) Both I and II are false.