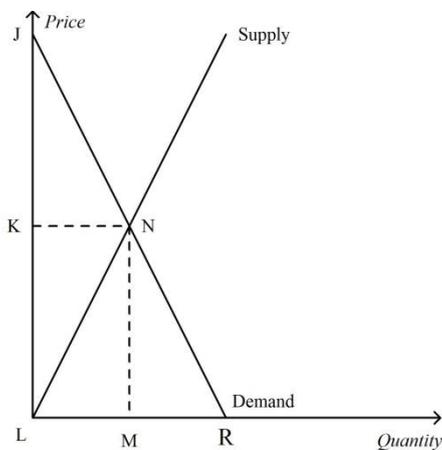


## Multiple Choices [75pts, 3pts each]

Price	Quantity Demanded	Quantity Demanded	Quantity Demanded
\$5	5	4	11
\$4	6	6	13
\$3	7	8	15
\$2	8	10	17
\$1	9	12	19
\$0	10	14	21

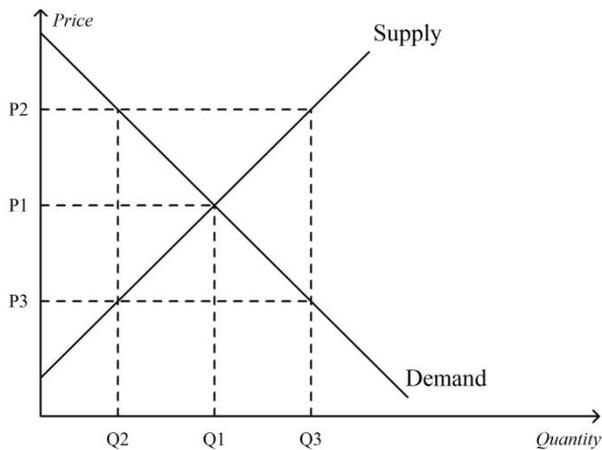
1. Refer to the above table. If the market consists of Laura and Hillary only and the price falls by \$1, the quantity demanded in the market increases by
- A. 2 units.
  - B. 3 units
  - C. 4 units
  - D. 5 units

Answer: C



2. Refer to the above figure. Total surplus can be measured as the area
- A. JNK
  - B. JNML
  - C. JRL.
  - D. JNL.

Answer: D



3. Refer to the above figure. At the quantity Q3,
- A. the market is in equilibrium.
  - B. consumer surplus is maximized.
  - C. the sum of consumer surplus and producer surplus is maximized
  - D. the marginal value to buyers is less than the marginal cost to sellers

Answer: D

4. If Farmer Brown plants no seeds on his farm, he gets no harvest. If he plants 1 bag of seeds, he gets 5 bushels of wheat. If he plants 2 bags, he gets 9 bushels. If he plants 3 bags, he gets 12 bushels. A bag of seeds costs \$120, and seeds are his only cost. Farmer Brown's production function exhibits
- A. increasing marginal product.
  - B. constant marginal product.
  - C. diminishing marginal product
  - D. The production function is unrelated to the marginal product

Answer: C

#### The Flying Elvis Copter Rides

Quantity	Total Cost	Fixed Cost	Variable Cost	Marginal Cost	Average Fixed Cost	Average Variable Cost	Average Total Cost
0	\$50	\$50	\$0	--	--	--	--
1	\$150	A	B	C	D	E	F
2	G	H	I	\$120	J	K	L
3	M	N	O	P	Q	\$120	R

5. Refer to the above table. What is the value of E?

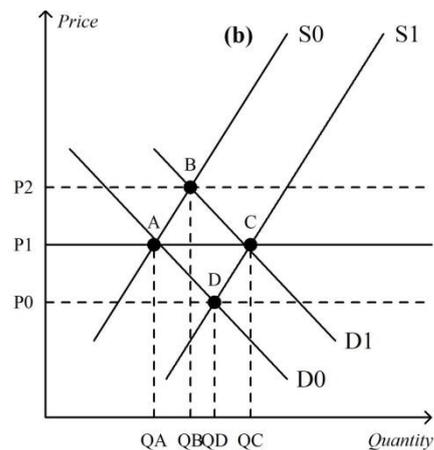
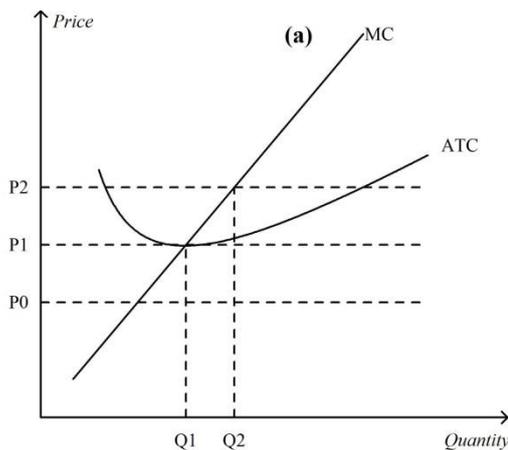
- A. \$25
- B. \$50
- C. \$100
- D. \$150

Answer: C

6. In a competitive market the price is \$8. A typical firm in the market has  $ATC = \$6$ ,  $AVC = \$5$ , and  $MC = \$8$ . How much economic profit is the firm earning in the short run?

- A. \$0 per unit.
- B. \$1 per unit.
- C. \$2 per unit.
- D. \$3 per unit.

Answer: C



7. Refer to the above figures. Assume that the market starts in equilibrium at point A in panel (b). An increase in demand from  $D_0$  to  $D_1$  will result in

- A. a new market equilibrium at point D
- B. an eventual increase in the number of firms in the market and a new long-run equilibrium at point C.
- C. rising prices and falling profits for existing firms in the market.
- D. falling prices and falling profits for existing firms in the market.

Answer: B

8. Price discrimination

- A. forces monopolies to charge a lower price as a result of government regulation.
- B. is an attempt by a monopoly to prevent some customers from purchasing its product by charging a high price.
- C. is an attempt by a monopoly to increase its profit by selling the same good to different customers at different prices.
- D. increases the consumer surplus associated with a monopolistic market.

Answer: C

9. Rosie's Flower Shop sells bouquets of roses for \$15 each. If Rosie hires 10 workers, she can sell 500 bouquets per week. If she hires 11 workers, she can sell 560 bouquets per week. Rosie pays each of her workers \$400 per week. Which of the following is correct?

- A. For the 11th worker, the marginal profit is \$500.
- B. For the 11th worker, the marginal revenue product is \$500.
- C. The firm is maximizing its profit.
- D. If the firm is employing 11 workers, then its profit would increase if it cut back to 10 workers.

Answer: A

10. In the short run, a perfectly competitive firm can

- A. only make an economic profit.
- B. only make zero economic profit.
- C. only incur an economic loss.
- D. make an economic profit, zero economic profit, or incur an economic loss.

Answer: D

11. A consumer chooses an optimal consumption point where the

- A. marginal rate of substitution exceeds the relative price ratio.
- B. slope of the indifference curve equals the slope of the budget constraint.
- C. ratio of the prices equals one.
- D. All of the above are correct.

Answer: B

12. An indifference curve shows combinations of goods \_\_\_\_\_.

- A. which the consumer prefers equally
- B. that are affordable
- C. that are inside or on the budget line
- D. that have the same relative price

Answer: A

13. Georgine buys more sweaters when her income increases. For Georgine, sweaters are

- A. a substitute.
- B. a complement.
- C. an inferior good.
- D. a normal good.

Answer: D

14. When the price of oranges increases from \$4 to \$6 per bag, the quantity demanded of oranges decreases from 800 bags to 700 bags. The price elasticity of demand over this price range is equal to

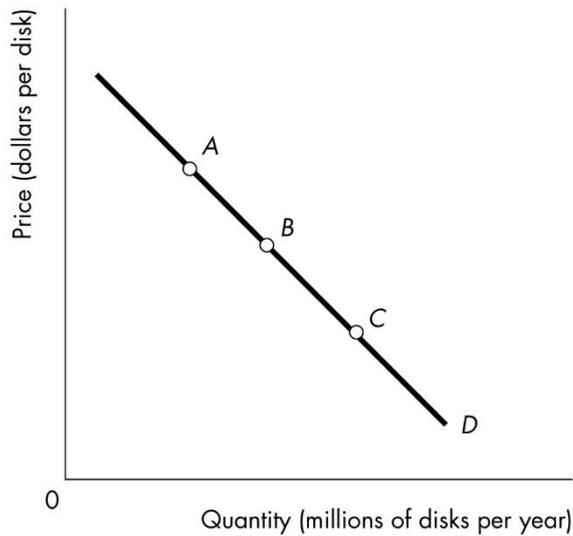
- A. 3.
- B.  $3/7$  or 0.4286.
- C.  $1/3$  or 0.3333.
- D.  $1/4$  or 0.25.

Answer: C

15. The price elasticity of demand for wheat is 0.42. A drought cuts the supply of wheat. What will happen to the farmers' total revenue?

- A. The total revenue will increase.
- B. The total revenue will decrease.
- C. The total revenue will not change.
- D. There is not enough information to determine what happens to the total revenue.

Answer: A



16. The above figure shows a linear (straight-line) demand curve. Starting at point A and then moving to point B and then point C, the price elasticity of demand

- A. increases.
- B. decreases.
- C. increases and then decreases.
- D. decreases and then increases.

Answer: B

17. Patents encourage inventions because without a patent,

- A. other firms could enter the inventor's market by producing the same product.
- B. nobody would demand the inventor's product.
- C. the inventor would receive no tax breaks.
- D. all markets would be public franchises.

Answer: A

18. A regulated monopoly facing average cost pricing rule will make the same profit as a firm in \_\_\_\_\_ market does in the long run.

- A. an unregulated monopoly
- B. an oligopoly

- C. a perfectly competitive
- D. All of the above answers are correct.

Answer: C

Government purchases of goods and services	\$240
Depreciation	240
Gross private domestic investment	400
Personal income taxes	140
Net taxes	120
Net exports of goods and services	80
Personal consumption expenditures	640
Net interest	100

19. From the data in the above table, GDP equals

- A. \$1,120.
- B. \$1,280.
- C. \$1,290.
- D. \$1,360.

Answer: D

The table below contains data for the country of Togogo. The base year is 1974.

Year	Nominal GDP	GDP Deflator
1974	\$2000	100
1975	\$3000	120
1976	\$3750	150
1977	\$6000	200

20. Refer to the above table. From 1975 to 1976,

- A. inflation was 25% and output did not grow.
- B. inflation was 25% and output grew.
- C. inflation was 50% and output did not grow.
- D. inflation was 50% and output grew.

Answer: A

21. When the consumer price index falls, the typical family
- A. has to spend more dollars to maintain the same standard of living.
  - B. can spend fewer dollars to maintain the same standard of living.
  - C. finds that its standard of living is not affected.
  - D. can save less because they do not need to offset the effects of rising prices.

Answer: B

22. Which of the following statements about real and nominal interest rates is correct?
- A. When the nominal interest rate is rising, the real interest rate is necessarily rising; when the nominal interest rate is falling, the real interest rate is necessarily falling.
  - B. If the nominal interest rate is 4 percent and the inflation rate is 3 percent, then the real interest rate is 7 percent.
  - C. An increase in the real interest rate is necessarily accompanied by either an increase in the nominal interest rate, an increase in the inflation rate, or both.
  - D. When the inflation rate is positive, the nominal interest rate is necessarily greater than the real interest rate.

Answer: D

23. Based on the following data for the country of Tiny Town, the unemployment rate equals.

Population = 100

Labor force = 80

Number of employed persons = 70

Number of discouraged workers = 5

- A.  $10/100 \times 100$ .
- B.  $10/80 \times 100$ .
- C.  $15/80 \times 100$ .
- D.  $5/70 \times 100$ .

Answer: B

24. In years with inflation, nominal GDP increases \_\_\_\_\_ real GDP.

- A. faster than
- B. slower than
- C. at the same rate as

D. sometimes faster, sometimes slower, and sometimes at the same rate as

Answer: A

25. The business cycle refers to

- A. fluctuations in the level of real GDP around potential GDP.
- B. changes in the level of nominal GDP.
- C. C) changes in the level of the stock market.
- D. D) changes in the level of employment.

Answer: A

## Short Questions [25pts]

1. [2pts] What is the deadweight loss due to profit-maximizing monopoly pricing under the following conditions: The price charged for goods produced is \$10. The intersection of the marginal revenue and marginal cost curves occurs where output is 100 units and marginal revenue is \$5. The socially efficient level of production is 110 units. The demand curve is linear and downward sloping, and the marginal cost curve is constant.

ANS:  $1/2 \times (110 - 100) \times (\$10 - \$5) = \$25$

2. [2pts] At its current level of production a profit-maximizing firm in a competitive market receives \$12.50 for each unit it produces and faces an average total cost of \$10. At the market price of \$12.50 per unit, the firm's marginal cost curve crosses the marginal revenue curve at an output level of 1,000 units. What is the firm's current profit? What is likely to occur in this market and why?

ANS: Profit can be calculated as  $(P - ATC) \times Q$ .  $(\$12.50 - 10) \times 1,000 = \$2,500$ . Firms are likely to enter this market because existing firms are earning economic profits.

3. [2pts] Consider an economy with the price of apple is \$2 and the price of orange is \$5. John, with \$100 in his pocket, is making the decision on how to spend this \$100. Suggest an affordable consumption bundle for John. Suppose that John value apple as much as orange, what is the optimal consumption bundle for John? If the price of orange dropped to \$4, what is the change in John's demand of apple? If the price of orange dropped to \$1, what is the change in John's demand of apple?

Ans: e.g. 20 apples and 12 oranges. The optimal bundle is 50 apples. No change if the price dropped to \$4. The demand of apples dropped to 0 if the price of orange dropped to \$1.

4. [5pts] The supply of luxury boats is perfectly elastic, the demand for luxury boats is unit elastic, and with no tax on luxury boats, the price is \$1 million and 240 luxury boats a week are bought. Now luxury boats are taxed at 20 percent. What is the price that buyers pay? How is the tax split between the buyer and the seller? What is the government's tax revenue?

Ans: Because the supply is perfectly elastic, the buyers pay all the tax: the price rises by the full amount of the tax and buyers pay \$1.2 million per boat. Because the supply is perfectly elastic, the buyers pay all the tax and the sellers pay none of the tax. The price rises 20 percent. The elasticity of demand is 1.0, so the quantity demanded decreases by 20 percent. Before the tax, 240 boats were bought, so the tax decreases the number of boats sold by  $(240 \text{ boats}) \times (20 \text{ percent})$ , which is 48 boats. So after the tax, 192 boats are bought. The government collects a tax of 20 percent on each boat, so the government collects \$200,000 tax on each. The total tax revenue the government collects is  $(\$200,000 \text{ a boat}) \times (192 \text{ boats})$ , which is \$38.4 million.

5. [5pts] Consider an economy produced 8000 apples and 4000 oranges in year 1. The price of apple is \$3 and the price of orange is \$5. In year 2, the production of apples increased to 9000 and oranges increased to 5000. The price of the apples is \$4 and the price of oranges is \$6. Calculate the nominal GDP in year 1 and 2. Also, calculate the real GDP of year 1 and 2 using year 1 as the base year. Calculate the GDP deflator in year 2.

Answer:

Nominal GDP in year 1:  $8000(3)+4000(5)=44000$

Nominal GDP in year 2:  $9000(4)+5000(6)=66000$

Real GDP in year 1: 44000

Real GDP in year 2:  $9000(3)+5000(5)=52000$

GDP deflator:  $66000/52000*100 = 126.92$

6. A typical family on Sandy Island consumes only juice and cloth. Last year, which was the base year, the family spent \$40 on juice and \$25 on cloth. In the base year, juice was \$4 a bottle and cloth was \$5 a length. This year, juice is \$4 a bottle and cloth is \$7 a length. Calculate
- [3pts] The CPI basket.
  - [3pts] The CPI in the current year.
  - [3pts] The inflation rate in the current year.

Ans:

- The CPI basket is 10 bottles of juice and 5 lengths of cloth.
- The CPI in the current year is 115.4. To calculate the CPI, divide the value of the CPI basket in current year prices by the base-year value of the CPI basket and then multiply the resulting number by 100. The value of the CPI basket in current year prices is:  $(\$4 \times 10) + (\$7 \times 5) = \$75$ . The value in base-year prices is  $\$40 + \$25$  (provided in the question), which equals \$65. So the CPI is  $(\$75/\$65) \times 100 = 115.4$ .
- The inflation rate in the current year is 15.4 percent. The inflation rate equals the CPI in the current year minus the CPI in the base year expressed as a percentage of the base-year CPI. Because the base-year CPI is 100, the inflation rate is  $[(115.4 - 100) / 100] \times 100\% = 15.4\text{percent}$ .