

# Group problems

## Basic

1. The income elasticity coefficient of good A is positive and the cross-price elasticity between good A and good B is negative. Good a is a(n)
  - a. normal good and a substitute for good B
  - b. inferior good and a substitute for good B
  - c. normal good and a complement for good B
  - d. inferior good and a complement for good B
  
2. The price of a Frisbee rises from \$5 to \$6. Total revenue falls from \$400 to \$360. We can conclude that price elasticity of demand coefficient is (roughly) \_\_\_\_\_ which means that demand is \_\_\_\_\_
  - a. -.579, elastic
  - b. -1.579, elastic
  - c. -.579, inelastic
  - d. -1.579, inelastic
  
3. Good C has a negative income elasticity. Which of the following goods is most likely to be good C
  - a. Alfa Romeo sports car
  - b. A vacation in Europe
  - c. A steak dinner
  - d. A can of generic beer
  
4. The cross-price elasticity coefficient between Wendy's biggie fries and Wendy's frosty is \_\_\_\_\_. The cross-price elasticity coefficient between burger king's whopper and McDonald's big Mac is \_\_\_\_\_
  - a. positive, positive
  - b. positive, negative
  - c. negative, positive
  - d. negative, negative
  
5. When the price of a good was lowered by 10%, the quantity demanded rose by 20%. The price elasticity of demand in absolute value is
  - a.  $\frac{1}{2}$
  - b. 1
  - c. 2
  - d. 2.5
  
6. The definition of the price elasticity of demand is
  - a. the change in quantity over change in price
  - b. percentage change in quantity over percentage change in price
  - c. percentage change in price over percentage change in quantity
  - d. change in price over change in quantity

1. Find TC, AFC, AVC, ATC and MC for the following table.

<u>Units</u>	<u>FC</u>	<u>VC</u>	<u>TC</u>	<u>MC</u>	<u>AFC</u>	<u>AVC</u>	<u>ATC</u>
0	50	0					
1	50	90					
2	50	120					
3	50	165					
4	50	220					
5	50	290					

2. You are presented with the following table on average productivity.

<u>Labor</u>	<u>TP</u>	<u>MP</u>	<u>AP</u>
1	2		
2	6		
3	15		
4	20		
5	23		
6	24		

a. Complete the table

3. In a short-run decision

- a. A firm has more options than in the long run
- b. A firm has fewer options than in the long run
- c. A firm has the same number of options as in the long run
- d. There is no relation between the number of options a firm has and whether it is a short-run decision or a long run decision

4. Five workers are producing a total of 28 units of output. The workers' marginal product is

- a. 5
- b. 28
- c.  $28/5$
- d. Cannot be determined with the information given

5. Five workers are producing a total of 28 units of output. The workers' average product is

- a. 5
- b. 28
- c.  $28/5$
- d. Cannot be determined with the information given

6. The firm's total fixed costs are 100; total variable costs are 200; and average fixed costs are 20. The firm's total costs are
- 100
  - 200
  - 300
  - 320
7. The firm is producing an output of 24 and has total costs of 260. Its marginal cost equals
- 10.83
  - 8.75
  - 260
  - cannot be determined with the information provided
8. The firm is producing an output of 24 and has total costs of 260. Its average total cost equals
- 10.83
  - 8.75
  - 260
  - cannot be determined with the information provided
9. When marginal costs are at the minimum point in the short run
- the marginal product of workers is at a maximum
  - the marginal product of workers is increasing
  - the marginal product of workers is decreasing
  - the average product of workers is at a maximum
10. If marginal cost is greater than average total cost, then
- the average total cost curve is upward sloping
  - the average total cost curve is at a low point
  - the average total cost curve is downward sloping
  - there is no necessary relation between marginal cost and average total costs
11. If marginal cost is less than average total cost curve is
- upward sloping
  - at its low point
  - is downward sloping
  - there is no necessary relation between marginal cost and average total costs

## Problems and Exercises

1. A box of Wheaties cereal with a wholesale price of \$1.60 has the following costs:

Labor	0.15
Materials	0.30
Advertising	0.25
R & D	0.25
Rent on building	0.25
Owner's profit	0.40

a. Which are likely variable costs?

b. Which are likely fixed costs?

2. Consider the following information about Sarina who has a clothing manufacturing company that sews psychedelic clothing such as Astro turf mini-skirts. Her alternative is working for the designer house for 160,000 per year. Her revenue is \$400,000 per year. Her costs are:

- \$60,000 for cloth, thread, and other materials
- \$10,000 for utilities
- \$70,000 for labor
- \$80,000 for rental equipment

She has an offer to buy the company for \$500,000, which she can otherwise invest with an annual return of 5%.

a. What are her accounting profits? Economic profits?

b. What should she do with her company?

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3. The following table represents long run total costs:

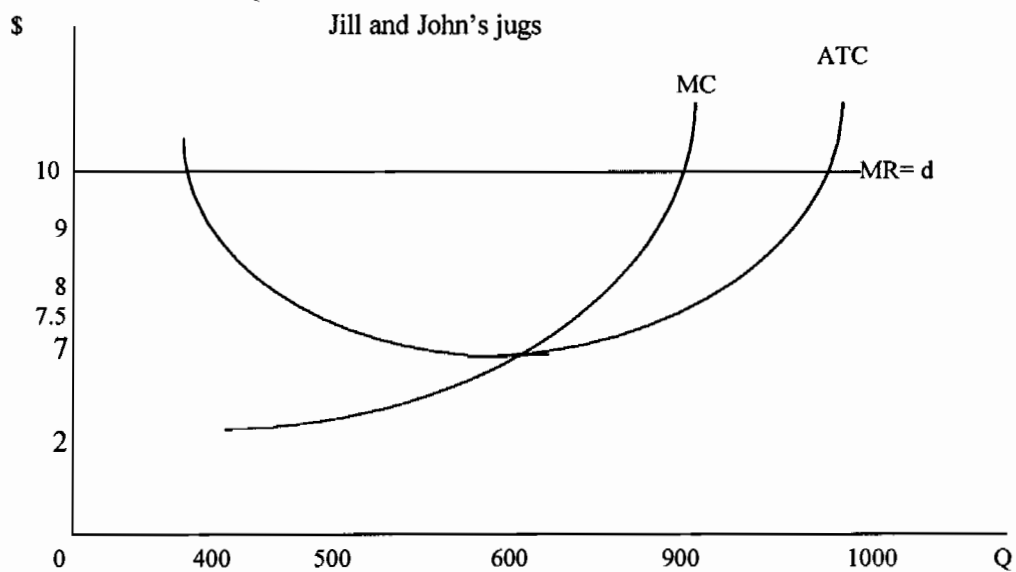
<u>Q</u>	<u>TC</u>	<u>ATC</u>
1	60	
2	66	
3	69	
4	72	
5	75	
6	90	
7	126	
8	184	
9	297	
10	600	

- a. Calculate the average total cost in the space provided
- b. Label the outputs where economies of scale and diseconomies of scale start

### Multiple Choice

1. Explanations for diseconomies of scale include all of the following except
  - a. as firm size increases, monitoring costs generally increase
  - b. as size of the firm increases, team spirit or moral generally decreases
  - c. as size of the firm increases, monitoring costs generally decrease, thereby increasing other cost
  - d. All of the above are explanations
2. Total revenue is \$1000; explicit measurable costs are \$500
  - a. accounting profit is \$1000
  - b. accounting profit is \$500
  - c. accounting profit is \$200
  - d. accounting profit cannot be determined

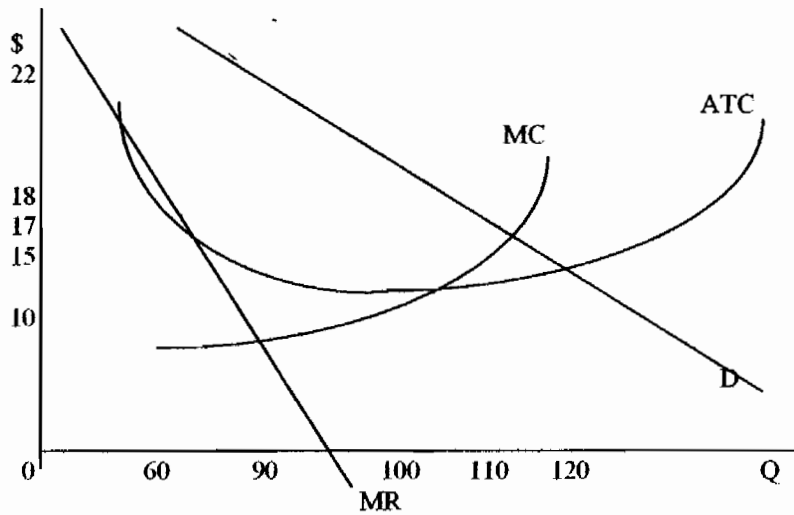
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1. In the diagram above the profit maximizing output level is
  
2. In the diagram above, if the firm produces 600 jugs, its profit will be
  
3. In the diagram above, if the firm produces 400 jugs, its total cost will be
  
4. In the diagram above, if the firm produces 900 jugs, total revenue is
  
5. In the diagram above, if the firm expands production from 600 jugs to 900 jugs, profit will increase from \_\_\_\_\_ to \_\_\_\_\_

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**Multiple Choice Questions:**

1. What is the profit maximizing level of output?
  
2. What is total revenue at the profit maximizing level of output?
  
3. What is total cost at the profit maximizing level of output?
  
4. What is profit at the profit maximizing level of output?

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1. The following table represents the market for Corning Fiberglass. Corning is the sole producer of fiberglass.

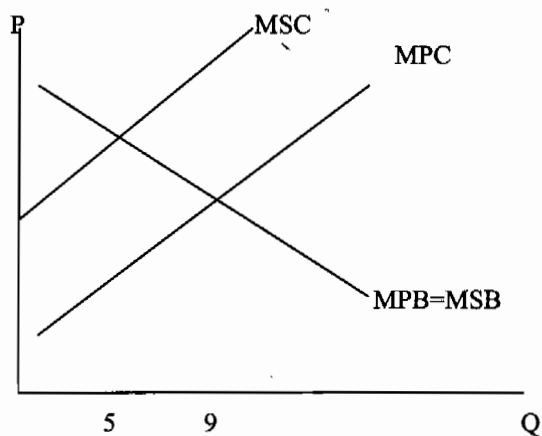
<u>Q</u>	<u>Price</u>	<u>TC</u>
0	-	60
1	46	65
2	42	81
3	38	111
4	34	145
5	30	189
6	24	249

a. Determine the profit maximizing price and output.

b. What is the monopolist's profit?

**Multiple Choice Questions:**

1. Monopoly is the market structure in which
  - a. one firm makes up the entire market
  - b. two firms make up the entire market
  - c. the market is made up of a few big firms
  - d. firms make a supernormal profit
2. If marginal revenue exceeds marginal cost
  - a. the monopolist will increase profit by increasing output
  - b. the monopolist will increase profit by decreasing output
  - c. the monopolist is maximizing profits
  - d. nothing can be said about profit



Use the above graph to answer questions 1-3

1. What does the above graph depict?
  - a. positive externality
  - b. negative externality
  - c. public good
  - d. merit good
  
2. What level of output will the private sector end up with?
  - a. 9
  - b. 2
  - c. 5
  - d. 10
  
3. What is the socially optimal level of output?
  - a. 9
  - b. 2
  - c. 5
  - d. 10
  
4. benefits passed on to third parties are included in:
  - a. MPB
  - b. MSB
  - c. MPC
  - d. MSC
  
5. Costs passed on to third parties are included in:
  - a. MPB
  - b. MSB
  - c. MPC
  - d. MSC

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6. If your income is \$50,000 and your tax payment is \$5,000, what is your tax rate?
  - a. 5%
  - b. 10%
  - c. 1000%
  - d. 15%
  
7. If your income is \$75,000 and your tax rate is 20%, what is your tax payment?
  - a. \$7,500
  - b. \$15,000
  - c. \$20,000
  - d. \$30,000
  
8. If your tax payment increases from \$5000 to \$6000 when income increases from \$50,000 to \$70,000, the tax you are paying is:
  - a. progressive
  - b. regressive
  - c. proportional
  - d. retroactive
  
9. Which of the following is an advantage of a corporation?
  - a. unlimited liability
  - b. limited liability
  - c. double taxation
  - d. avoidance of double taxation
  
10. National defense is a example of:
  - a. negative externality
  - b. positive externality
  - c. public good
  - d. merit good

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## **Problems and Exercises:**

1. For each of the following changes in the unemployment rate, state what will likely happen to output in the United States:

- a. Unemployment rate falls 2 percentage points.
- b. Unemployment rate falls 1 percentage point.
- c. Unemployment rate increases 3 percentage points.

2. For each, state whether the unemployment is structural or cyclical.

- a. Unemployment rises as output in the economy falls.
- b. The demand for workers to make typewriters falls as more consumers switch to computers.
- c. As the United States becomes a more high-tech producer, labor intensive factories(*low tech*) relocate to low wage countries. Factory workers lose their jobs and the unemployment rate rises.
- d. As it becomes more acceptable for mothers to work, more women leave homemaking and enter the labor market looking for work. The unemployment rate rises.
- e. Foreign economies slow and demand fewer U.S. exports. Unemployment rate rises.

3. Calculate the following given the information about the economy in the table:

Total Population	260 million
Noninstitutional population	200 million
Incapable of working	60 million
Not in the labor force	66 million
Employed	134 million
Unemployed	10 million

a. Labor force

b. Unemployment rate

4. Create a price index for Green Bay Packer fans using the following basket of goods with 1997 prices as the base year.

Quantities in 1997	Prices	
	1997	1998
90 lbs of cheese	\$2.50/lb	\$2.00/lb
12 flannel shirts	\$15/shirt	\$20/shirt
16 football tickets	\$25/ticket	\$30/ticket

a. What is the price of the basket of goods each year? Show how the price index is 100 in the base year

b. Using 1997 as the base year, what is the price index in 1998? By how much have prices risen?

c. What are some potential flaws of this price index?

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A1. You have been hired as a research assistant and are given the following data about the economy:

Transfer payments	\$70
Interest paid by consumers	5
Net exports	10
Indirect business taxes	44
Net foreign factor income	3
Corporate income tax	69
Contribution for social insurance	37
Personal tax and non-tax payments	92
Undistributed corporate profits	49
Gross private investment	200
Government purchases	190
Personal consumption	550
Depreciation	65

You are asked to calculate the following:

- a. GDP
- b. GNP
- c. NNP
- d. NDP
- e. NI
- f. Personal income
- g. Disposable income

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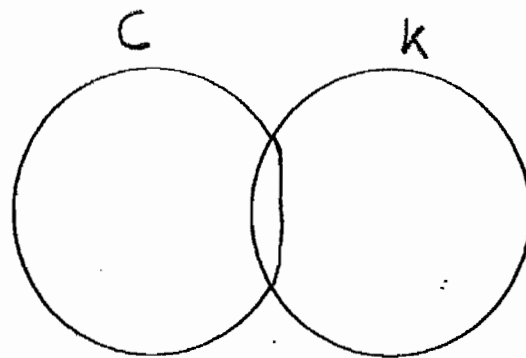
### **Multiple Choice Questions:**

1. If inflation is 10% and nominal GDP goes up 20%, real GDP goes up approximately
  - a. 1%
  - b. 10%
  - c. 20%
  - d. 50%
  
2. To move from GDP to GNP, one must
  - a. add net foreign factor income
  - b. subtract inflation
  - c. add depreciation
  - d. subtract depreciation
  
3. If a firm's cost of materials is \$100 and its value of sales is \$500, its value added is
  - a. \$100
  - b. \$400
  - c. \$500
  - d. \$600
  
4. If a woman divorces her housepouse and hires him to continue cleaning her house for \$20,000 per year, GDP will
  - a. remain constant
  - b. increase by \$20,000
  - c. decrease by \$20,000
  - d. remain unchanged
  
5. The four components of expenditures in GDP are
  - a. consumption, investment, government spending, and net exports
  - b. consumption, depreciation, investment, and government expenditures
  - c. consumption, investment, gross exports, and government expenditures
  - d. durable goods, nondurable goods, services, and government expenditures
  
6. The largest component of expenditures in GDP is
  - a. consumption
  - b. investment
  - c. net exports
  - d. government purchases



7. The largest component of national income is
- rents
  - net interest
  - profits
  - compensation to employees
8. If the price level rises by 2% and nominal GDP increases from \$5 trillion to \$6 trillion, by approximately how much has real GDP increased?
- 0%
  - 2%
  - 18%
  - 48%
9. If nominal GDP rises
- wellbeing of society has definitely increased
  - wellbeing of society has definitely decreased
  - wellbeing of society may have increased or decreased
  - wellbeing of society has most likely increased
10. Gross investment differs from net investment by
- net exports
  - net imports
  - depreciation
  - transfer payments
11. GDP differs from net domestic product by
- depreciation
  - exports
  - imports
  - transfer payments

1. flexible wages, prices and interest rates
2. long run focused
3. short run focused
4. demand focused
5. supply focused
6. supply creates its own demand
7. in the long run we're all dead
8. output equals income
9. activist
10. the economy will fix itself
11. wages prices and interest rates are sticky especially in the downward direction
12. the equation of exchange



## **Problems and exercises**

1. State the equation of exchange. With that equation answer the following questions:

a. Nominal GDP is \$2000, the money supply is 200. What is the velocity of money?

b. The velocity of money is 5, the money supply is \$1,000 billion. What is nominal output?

c. Assuming velocity is constant and the money supply increases by 10%, by how much does nominal output increase?

## **Multiple Choice Questions:**

1. Classical economists generally
  - a. favor government intervention
  - b. oppose government intervention
  - c. believe the economy is primarily directed by the invisible handshake
  - d. think unions are not responsible for unemployment
  
2. Say's law states that
  - a. demand creates its own supply
  - b. supply creates its own demand
  - c. supply and demand are not related
  - d. there is no such thing as a free lunch
  
3. When people save, Say's law
  - a. is invalidated
  - b. remains true because saving has nothing to do with Say's law.
  - c. remains true as long as saving is translated back into investment
  - d. is false because saving creates unemployment

4. Classical economists believed all the following except
- frictional unemployment could exist
  - structural unemployment could exist
  - voluntary unemployment could exist
  - unemployment could be caused by inflexible wages
5. the equation to exchange is
- $MP=VQ$
  - $MQ=VP$
  - $MV=PQ$
  - $PV=QM$
6. Classical economist believe the equation of exchange should be read from
- left to right
  - right to left
  - top to bottom
  - bottom to top
7. The Classical economists' solution to the Great Depression was
- reduce the wage rate
  - increase aggregate demand
  - increase the money supply
  - decrease the money supply
8. If the price level changes one would expect
- the aggregate demand curve to shift to the right
  - the aggregate demand curve to shift to the left
  - the aggregate demand curve to remain unchanged
  - the aggregate demand curve to become flatter

1. Assuming individuals hold no cash, calculate the simple money multiplier for each of the following reserve requirements
  - a. 15%
  - b. 30%
  - c. 60%
  - d. 80%
  
2. Assuming individuals hold 10% of their deposits as cash, recalculate the approximate real world money multiplier
  - a. 15%
  - b. 30%
  - c. 60%
  - d. 80%

**Multiple Choice Questions(money and banking)**

1. Which of the following is not a function of money?
  - a. medium of exchange
  - b. unit of account
  - c. store of value
  - d. equity instrument
  
2. Which of the following is not included in the M1 definition of money?
  - a. checking accounts
  - b. currency
  - c. traveler's checks
  - d. savings accounts
  
3. Which of the following is not included in the M2 definition of money?
  - a. M1
  - b. Saving deposits
  - c. Small-denomination time deposits
  - d. Bonds
  
4. Assuming individuals hold no cash, the reserve requirement is 20%, and banks keep no excess reserves, an initial increase of \$100 will cause a total increase of how much?
  - a. \$20
  - b. \$50
  - c. \$100
  - d. \$500
  
5. Liquidity is
  - a. a property of water stocks
  - b. the ability to turn an asset into a means of payment at a low cost
  - c. the ability to turn an asset into liquid quickly
  - d. a property of over-the-counter markets

## **Multiple Choice Questions(monetary policy)**

1. The central bank of the United States is
  - a. the treasury
  - b. the fed
  - c. the bank of the United States
  - d. old lady of threadneedle street
  
2. Monetary policy is
  - a. a variation of fiscal policy
  - b. undertaken by the treasury
  - c. undertaken by the fed
  - d. the regulation of monetary institutions
  
3. There are seven Governors of the Federal Reserve, who are appointed for terms of
  - a. 5 years
  - b. 10 years
  - c. 14 years
  - d. 17 years
  
4. Explicit functions of the Fed include all the following except
  - a. conducting monetary policy
  - b. conducting fiscal policy
  - c. providing banking services to the U.S. government
  - d. serving as a lender of the last resort
  
5. FOMC stands for
  - a. Federal Open Money Committee
  - b. Federal Open Market Committee
  - c. Fixed Open Market Commitments
  - d. Federation of Open Monies Committee
  
6. Tools of monetary policy include all the following except
  - a. changing the reserve requirements
  - b. changing the discount rate
  - c. executing open market operations
  - d. running deficits
  
7. Assuming  $c = .2$  and  $r = .1$  the approximate real world money multiplier would be
  - a. 1.33
  - b. 2.33
  - c. 3.33
  - d. 4.33

8. The primary tool of monetary policy is
  - a. open market operations
  - b. changing the discount rate
  - c. changing the reserve requirements
  - d. imposing credit controls
  
9. When the Fed sells bonds, the money supply is
  - a. expanded
  - b. contracted
  - c. selling bonds has no effect
  - d. sometimes raised and sometimes lowered
  
10. The Federal funds rate is
  - a. the interest rate the government charges banks for Fed funds
  - b. the interest rate the Fed charges banks for Fed funds
  - c. the interest rate the banks charge individual investors
  - d. the interest rate banks charge each other
  
11. The equation of exchange is
  - a.  $MV=PM$
  - b.  $MV=PQ$
  - c.  $AE=AP$
  - d.  $MF=CE$
  
12. In 1997 nominal GDP in the U.S. was approximately \$7.5 trillion, and the money supply was approximately \$3.75 trillion. The velocity on money was
  - a.  $\frac{1}{2}$
  - b. 2
  - c.  $\$7.5 \times \$3.75$
  - d. cannot be determined
  
13. Expected inflation is 4%; nominal interest rates are 7%; the real interest rate is
  - a. 1%
  - b. 2%
  - c. 3%
  - d. 7%
  
14. The real interest rate is 3%; the nominal interest rate is 7%. It is likely that one could deduce an expected inflation rate of
  - a. 1%
  - b. 2%
  - c. 3%
  - d. 4%