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每題 1 分，共 100 題

選擇題請在答案卡上作答，否則不予計分。

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

- The shape, slope, and position of a demand curve is determined by
 - competition in the marketplace.
 - consumers' preferences.
 - consumers' wealth.
 - by A), B), and C).
 - by B) and C).
- Last summer real estate prices in your town soared. You started noticing more For Sale signs in your neighbors' yards. You conclude that
 - people don't like to live in your neighborhood anymore.
 - when housing prices rose, they started to exceed some of your neighbors' reservation prices.
 - the demand curve for housing in your town has shifted to the left while supply remained constant.
 - the supply curve for housing in your town has shifted to the right while demand has remained constant.
 - unemployment in your town has increased significantly.
- If both supply and demand decrease simultaneously, the new equilibrium price is _____ and the new equilibrium quantity is _____.
 - lower; lower
 - lower; indeterminate
 - indeterminate; higher
 - indeterminate; lower
 - higher; indeterminate
- Efficiency is an important goal in economics because it
 - assures a fair outcome.
 - assures a normative outcome.
 - assures a higher level of output.
 - takes into consideration the distribution of income.
 - none of the above is true.
- If the demand curve for beets is $P=5$, the absolute value of the price elasticity of demand, is
 - 5.
 - 0.2.
 - 0.
 - infinity.
 - Insufficient information to calculate.
- The correct relationship between the price elasticity of demand and total revenues is if demand is _____, a price increase will _____ total revenues.
 - elastic; increase
 - inelastic; increase
 - unitary elastic; decrease
 - unitary elastic; decrease
 - inelastic; decrease
- If cross price elasticity is positive but less than one, the two goods are
 - substitutes.
 - inelastic.
 - complements.
 - normal.
 - elastic.
- During recessions, when workers lose their jobs and have lower incomes, sales of durable goods (goods with a life expectancy of 3 years or more) decline. Apparently, durables are
 - substitutes.
 - normal goods.
 - complements.
 - inferior goods.
 - elastic.
- When the price of golf clubs increases from \$75 to \$125, it lead to an increase in quantity supplied from 200 units to 300 units. The price elasticity of supply for golf club is _____ so the supply curve is _____.
 - 2; elastic
 - 2; inelastic
 - 4/3; elastic
 - 3/4; inelastic
 - 1; elastic
- Laura's total utility from consuming 8, 9, and 10 bonbons is 35, 42, and 45, respectively. Her marginal utility from the 9th bonbon is _____ utils.
 - 42
 - 9
 - 7
 - 4.67
 - 77
- For two goods, A and B, $MUA/PA = 10$ and $MUB/PB = 12$. The consumer should
 - not change the amounts purchased of A and B.
 - purchase less of A and more of B.
 - purchase more of A and B.
 - purchase less of A and B.
 - purchase more of A and less of B.
- Consumer surplus measures
 - marginal utility.
 - total utility.
 - the cumulative difference between real and nominal prices.
 - the cumulative difference between price and maximum willingness to pay.
 - the cumulative difference between the substitution effect and the income effect.

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13. A person's reservation price for performing a task equals
- the equilibrium wage.
 - the minimum wage in effect in that community.
 - the total value of all of the other things the person could be doing during that time.
 - the value of the most attractive alternative activity that the person could be doing during that time.
 - the price for which the good produced could be sold.
14. Conditions that are necessary for a market to be perfectly competitive include:
- The firms sell a standardized product.
 - Market demand for the product is perfectly elastic.
 - Firms can easily buy and sell the productive resources necessary to compete in the market.
 - A, B, and C.
 - A and C but not B.
15. The short run is defined as
- one year or less.
 - a period in which all factors of production are variable.
 - the period of time between quarterly accounting reports.
 - a period in which at least one factor of production is fixed.
 - a period in which at most one factor of production is fixed.
16. If the firm spends \$200 to produce 17 units of output and spends \$455 to produce 34 units, then the marginal cost of increasing production from 17 to 34 units is
- \$13.38.
 - \$15.
 - \$7.50.
 - \$11.76.
 - \$255.
17. Pareto efficiency is a situation in which
- no one is made better off.
 - trades that make some better off without harming others exist.
 - trades have benefited some and harmed others.
 - any further trades will harm someone.
 - all trades have harmed someone.
18. Price ceilings result in
- increased total economic surplus.
 - shortages.
 - surpluses.
 - quantity supplied being equal to quantity demanded.
 - the same amount of total economic surplus with a reallocation from producers to consumers.
19. Suppose a perfectly competitive industry has an external cost (e.g., noise pollution). The market outcome will be _____ because the equilibrium price is _____.
- inefficient; greater than the true cost
 - efficient; correct
 - inefficient; too high
 - efficient; too low
 - inefficient; less than the true cost
20. The more elastic demand is, the _____ the burden of the tax borne by _____.
- smaller; consumers
 - larger; consumers
 - smaller; consumers and producers
 - smaller; producers
 - larger; consumer and producers
21. If a per unit tax is imposed, the more elastic demand is, the
- less likely the deadweight loss will be affected.
 - smaller the deadweight loss.
 - larger the deadweight loss to consumers.
 - smaller the deadweight loss to producers.
 - larger the deadweight loss.
22. Suppose that instead of taxing the producers, a tax of an equal dollar amount per unit is imposed on consumers in the market shown. Relative to the tax on producers,
- the tax on consumers would generate more deadweight loss.
 - the burden of the tax on consumers would be more equally shared between consumers and producers.
 - consumers would bear a greater share of the tax burden.
 - the effect on deadweight loss and tax burdens would be the same.
 - the price paid by consumers would increase by more.

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23. The World Trade Organization
 - A) is an eco-terrorist group.
 - B) advocates for protection of domestic industries against cheap imports.
 - C) enforces international trade agreements.
 - D) protects consumers against exploitation by large multinational corporations.
 - E) protects workers against exploitation by large multinational corporations.
24. Japan exports cars to the other countries of the world. In an open economy Japan is most likely to have a domestic price _____ the world price of cars.
 - A) less than
 - B) greater than
 - C) equal to
 - D) close to
 - E) impossible to tell
25. A tariff is a tax imposed on _____ good.
 - A) an imported
 - B) a luxury
 - C) an illegal
 - D) the most popular
 - E) a domestic
26. The significant difference between perfect competitors and imperfect competitors is
 - A) the firms' objective.
 - B) the structure of their costs.
 - C) the relationship of marginal costs to total costs.
 - D) the relationship of price to marginal revenues.
 - E) the relationship of total costs to average costs.
27. A pure public good is one that is
 - A) nonrival only.
 - B) slightly nonrival and nonexcludable.
 - C) nonexcludable.
 - D) highly nonrival but only slightly nonexcludable.
 - E) highly nonrival and nonexcludable.
28. Constant returns to scale occur when a doubling of all inputs
 - A) doubles the price of outputs.
 - B) more than doubles output.
 - C) less than doubles the price of the inputs.
 - D) exactly doubles output.
 - E) less than doubles output.
29. If the monopolist's demand curve is $P=90-3*Q$, then the price at which marginal revenues are zero is
 - A) \$3.
 - B) \$15.
 - C) \$40.
 - D) \$60.
 - E) \$90.
30. In order to achieve a socially optimal level of output, activities that generate negative externalities should be
 - A) banned.
 - B) subsidized.
 - C) taxed.
 - D) deregulated.
 - E) bought out by the government.
31. If a natural monopoly sets price equal to its marginal cost it will _____.
 - A) earn an accounting profit
 - B) earn an economic profit
 - C) earn zero economic profit
 - D) incur an economic loss
 - E) earn a normal profit
32. The tragedy of the commons refers to the
 - A) overuse of resources that have no price.
 - B) plight of the common man.
 - C) under production of external benefits.
 - D) pollution of our natural resources.
 - E) overuse of resources that have no cost.
33. The pattern in which insurance tends to be purchased disproportionately by those who are most costly for companies to insure, is called
 - A) moral hazard.
 - B) statistical discrimination
 - C) adverse selection.
 - D) the credibility problem
 - E) asymmetric information.
34. Which of the following resource is most likely to be used efficiently?
 - A) One that has private property rights
 - B) One that benefits everyone
 - C) Government owned resources
 - D) Extractive resources
 - E) Unpriced resources
35. Means-tested welfare benefits provide an incentive to
 - A) leave welfare.
 - B) earn unreported or illegal income.
 - C) work.
 - D) accurately disclose earnings.
 - E) take part-time minimum wage employment.
36. If a good can be consumed by one person without reducing the availability of the good to others, this good is a(n) _____ good.
 - A) nonexcludable
 - B) pure public
 - C) private
 - D) nonrival
 - E) common
37. Suppose Scott's demand for a public good is $P=7-0.3Q$ and Mike's demand is $P=10-1.5Q$. The equation for social demand for the public good is
 - A) $Q=17-1.8P$.
 - B) $P=17-1.8Q$.
 - C) $P=3-1.2Q$.
 - D) $P=14-0.6Q$.
 - E) $P=20-3.0Q$.

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38. A tax that results in a larger fraction of income being paid in taxes as income rises is a _____ tax.
 A) regressive B) head C) progressive D) proportional E) flat.

39. Some people reduce their effort to prevent their insured goods from being damaged or stolen. This behavior is known as
 A) moral hazard. D) the free-rider problem.
 B) adverse selection. E) the commitment problem.
 C) risk aversion.

40. labor union in the labor market is analogous to a _____ in the output market.
 A) monopsony B) tax C) cartel D) perfect competitor E) oligopoly.

41. Excess demand in the market is evidence of
 A) Pareto efficiency D) equilibrium
 B) the opportunity for surplus-enhancing trades E) an economic pie that is too small.
 C) government interference in the market

42. If the consumers can easily switch to a close substitute when the price of a good increases, demand for that good is likely to be
 A) elastic. B) inelastic. C) unitary elastic. D) perfectly inelastic. E) none of the above.

43. The common feature in pure monopoly, oligopoly, and monopolistic competition is
 A) the absence of close substitutes. D) price discrimination.
 B) blocked entry. E) downward sloping demand.
 C) interdependent decision making by firms.

44. A firm that emerges as the only seller in an industry with economies of scale is termed a(n)
 A) antitrust violator. B) oligopoly. C) monopsony. D) natural oligopoly. E) natural monopoly.

45. Given the total cost function $TC=2,000+2*Q$, when output is 1,000 units average total costs are _____ and total fixed costs is _____.
 A) \$2; \$2 B) \$4; \$2 C) \$4; \$2,000 D) \$4,000; \$2,000 E) insufficient information to calculate

46. Game theory provides tools that are used to model
 A) how perfectly competitive firms behave. D) interdependence.
 B) cost functions faced by firms. E) the behavior of a pure monopolist.
 C) consumer demand.

47. The three elements of a game are
 A) the firm, the consumers and the profit D) the costs, the revenue and the profit
 B) the players, the strategies and the payoffs E) the industry, the firms and the demand
 C) the model, the graph and the costs

48. Purchasing goods such that the ratio of marginal utility to price is equal across all goods results in the
 A) greatest total utility. D) greatest expenditure on goods.
 B) lowest expenditure on goods. E) expenditures for all goods being the same.
 C) greatest average utility.

49. Some would argue that reducing taxes on all goods and services would reduce economic inefficiency. This view is true
 A) always.
 B) never.
 C) if all goods and services have a negative externality.
 D) if all goods and services have no negative externality.
 E) only if the tax savings is returned to the voters.

50. Rent-seeking describes
 A) the consequences of high mortgage rates.
 B) spending by the government that is unproductive.
 C) the reason for the existence of lease agreements.
 D) socially inefficient efforts to win a prize.
 E) the market for apartments.

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62. Checks _____ money and checking deposits _____ money.
A. are; are not B. are not; are not C. are; are D. are not; are
63. Induced taxes _____ during recessions and _____ during expansions.
A. increase; increase B. decrease; decrease C. increase; expansions D. decrease; increase
64. You deposit \$4,000 in currency in your checking account. The bank holds 20 percent of all deposits as desired reserves. As a direct result of your deposit, your bank will create
A. \$3,200 of new money. B. \$200 of new money. C. \$1,600 of new money. D. \$800 of new money.
65. When the economy is at an above full-employment equilibrium, _____.
A. real GDP is less than potential GDP B. a recessionary gap exists
C. nominal GDP exceeds real GDP D. an inflationary gap exists
66. When the monetary base increases by \$4 billion, the quantity of money increases by \$10 billion. Thus, the money multiplier equals
A. 2.5. B. 40.0. C. 0.4. D. none of the above.
67. If nominal GDP is \$5 trillion and the GDP deflator is 125, what is real GDP?
A. \$6.25 trillion B. \$4 trillion C. \$625 trillion D. \$0.04 trillion
68. Suppose the tax rate on interest income is 25 percent, the real interest rate is 4 percent, and the inflation rate is 4 percent. In this case, the real after-tax interest rate is
A. 2.0 percent. B. 0.5 percent. C. 3.5 percent. D. 4.0 percent.
69. At the start of a cost-push inflation,
A. productivity rises. B. real GDP increases faster than the quantity of money.
C. prices and unemployment are rising. D. the short-run aggregate supply curve shifts rightward.
70. To stop a demand-pull inflation using monetary policy, you would recommend that the Central Bank
A. not increase the quantity of money. B. increase the quantity of money.
C. increase tax rates. D. purchase government bonds in the open market.
71. When the price level rises, the long-run aggregate supply curve _____.
A. shifts leftward B. does not shift C. shifts rightward D. slopes upward
72. An advance in technology shifts the production function upward and shifts the labor
A. supply curve rightward. B. supply curve leftward. C. demand curve leftward. D. demand curve rightward.
73. If government saving is negative (that is, if government is running a budget deficit), crowding out might occur. Crowding out leads to all of the following EXCEPT
A. a smaller capital stock in the future. B. a higher real interest rate.
C. a decreased quantity of investment. D. decreased private saving.
74. If a pizza maker pays \$1 for tomatoes, \$1 for cheese, \$2 for sausage, and sells the pizza made with these ingredients for \$7, then each pizza sold contributes how much to GDP?

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<p>A. \$3 B. \$4 C. \$7 D. \$11</p> <p>75. Total spending on final goods and services in an economy must equal total: A. profits. B. production. C. revenues from all transactions. D. consumption.</p> <p>76. As inflation increases, households become _____ uncertain leading to _____ spending. A. more; more B. more; less C. more; no change in D. less; less</p> <p>77. The end of a recession is called the: A. depression. B. expansion. C. peak. D. trough.</p> <p>78. Indicators of economic activity that move at the same time as the overall movement of the economy are called _____ indicators. A. short-term B. long-term C. coincident D. nominal</p> <p>79. A country's actual output _____ potential output. A. can never exceed B. can never be below C. can temporarily exceed D. will be approximately equal to</p> <p>80. If the natural rate of unemployment equals 6% and the actual rate of unemployment equals 4%, then cyclical unemployment equals: A. -2% B. 2% C. 6% D. 10%</p> <p>81. Automatic stabilizers are provisions in the law that imply automatic _____ in government spending or _____ in taxes when real output increases. A. increases; increases B. decreases; decreases C. increases; decreases D. decreases; increases</p> <p>82. Average labor productivity times the proportion of the population employed equals: A. real GDP. B. output per worker. C. real GDP per person. D. real GDP per worker.</p> <p>83. If the price index was 100 in 1990 and 120 in 2000, and nominal GDP was \$360 billion in 1990 and \$480 billion in 2000, then the value of 2000 GDP in terms of 1990 dollars would be A. \$300 billion. B. \$384 billion. C. \$400 billion. D. \$424 billion.</p> <p>84. If the price index last year was 1.0 and today it is 1.4, what is the inflation rate over this period? A. -4% B. 1.4% C. 4% D. 40%</p> <p>85. If Jeff's wage rate rises, he decides to work fewer hours. From this, we can infer that A. for Jeff, the substitution effect is greater than the income effect. B. for Jeff, the substitution effect is equal to the income effect. C. for Jeff, the substitution effect is less than the income effect. D. Jeff is a fool.</p>						
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86	What is the unemployment rate if there are 150 million people employed, 25 million people unemployed, and 25 million not in the labor force?					
	A. 14.3% B. 13.4% C. 12.5% D. 25.0%					
87	Which of the following is a flow?					
	A. saving B. wealth C. assets D. money					
88	Where Y is GDP, C is consumption, I is investment, and G is government spending, if there is no international trade, then national saving equals:					
	A. $C + I + G$ B. $Y - C - G$ C. $Y + C + G$ D. $Y - C - I - G$					
89	Gross domestic product (GDP) equals the _____ of final _____ produced within a country during a given period of time.					
	A. market value; goods B. market value; services C. quantity; goods and services D. market value; goods and services					
90	Intermediate goods and services are _____ production and _____ counted in GDP.					
	A. the end product of; are B. used up in the process of; are not C. the end product of; are not D. used up in the process of; are					
91	In the year 2005 Janice Quinn sells a five-year-old car to Used Car Inc. for \$3,000. In the same year Used Car Inc. resells the car to Ima Goner for \$3,500. What is the contribution of this transaction to GDP in the year 2005?					
	A. \$0 B. \$500 C. \$3,500 D. \$6,500					
92	If business inventories at the beginning of the year equal \$40 billion and equal \$55 billion at the end of the year, then GDP will:					
	A. decrease by \$15 billion. B. increase by \$55 billion. C. increase by \$15 billion. D. not change.					
93	Real GDP is measured in _____ prices and nominal GDP is measured in _____ prices.					
	A. current; base-year B. base-year; base-year C. base-year; current D. current; market					
94	Which of the following describes the Keynesian approach to the business cycle?					
	I. Unanticipated shocks to aggregate supply drive expansions and recessions. II. The Keynesian theory is a real business cycle model of the economy. III. A decrease in business confidence can trigger a recession.					
	A. I only B. II and III C. I and II D. III only					
95	Net investment equals					
	A. capital stock minus depreciation. B. gross investment minus depreciation. C. gross investment/depreciation. D. the total quantity of plant, equipment and buildings.					
96	In an open market purchase, the Central Bank _____ government securities, which _____ bank reserves.					
	A. buys, decreases B. sells, increases C. sells, decreases D. buys, increases					

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- 97 Nominal GDP, PY , is \$7.5 trillion. The quantity of money is \$3 trillion. The velocity of circulation is
A. 10.5. B. 3 C. 2.5 D. 22.5
- 98 Phillips curve measures the relationship between
A. the level of money wage rates and GDP. B. unemployment and GDP.
C. inflation and GDP. D. the unemployment rate and inflation.
- 99 Taiwan exports tools to the United States. Consumers in Taiwan will probably pay a(n) _____ price for tools with free trade than they would with a closed economy.
A. lower B. higher C. equal D. more fair
- 100 The rate at which two currencies can be traded for each other is called the _____ exchange rate.
A. flexible B. fixed C. nominal D. real



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1.(15%) A company made the following expenditures in connection with the construction of its new building:

Architect's fees for the new building.....	18,000
Cash paid for land and run-down building on the land	450,000
Removal of old building.....	27,000
Salvage from sale of old building materials.....	(6,000)
Construction survey to site the new building	2,250
Legal fees for title search	4,500
Excavation for basement construction	37,500
Machinery purchased for operations	150,000
Storage charges on machinery because building was not ready when machinery was delivered	0 1,350
Freight on machinery purchased	2,400
Hauling charges to delivery machinery from storage to new building	0 450
Construction costs of new building	1,500,000
Landscaping.....	30,000
Installation of machinery.....	3,750

Prepare a schedule showing the amounts to be recorded as Land, Buildings, and Machinery.

2.(24%) The City Store reported the following amounts on their financial statements for 2006, 2007, and 2008:

	For the year ended December 31		
	2006	2007	2008
Cost of goods sold	\$85,000	\$97,000	\$87,000
Net income.....	32,000	35,000	31,000
Total current assets	255,000	265,000	210,000
Equity.....	387,000	395,000	404,000

It was discovered early in 2007 that the ending inventory on December 31, 2006 was overstated by \$10,000, and the ending inventory on December 31, 2007 was understated by \$5,500. The ending inventory on December 31, 2008 was correct. Ignoring income taxes, **determine the correct amounts of cost of goods sold, net income, total current assets, and equity for each of the years 2006, 2007, and 2008.**

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3. (20%) Use the following income statement and information about selected current assets and current liabilities to calculate the net cash provided or used by operating activities using the **direct method**.

Somewhere Company Income Statement For Year Ended December 31, 2008		
Sales.....		\$900,000
Cost of goods sold		<u>520,000</u>
Gross profit from sales.....		380,000
Operating expenses:		
Salaries and wages expense	\$125,000	
Depreciation expense.....	25,000	
Rent expense.....	36,000	
Interest expense	<u>9,500</u>	<u>195,500</u>
Income from operations.....		\$184,500
Gain on sale of land		<u>10,000</u>
Net income.....		<u>\$194,500</u>

Selected beginning and ending balances of current asset and current liability accounts, all of which relate to operating activities, are as follows:

	Balance	
	Dec. 31, 2008	Dec. 31, 2007
Accounts receivable.....	\$138,000	\$120,000
Merchandise inventory	91,000	100,000
Prepaid rent.....	2,750	2,000
Accounts payable.....	135,500	155,000
Salaries and wages payable	52,000	45,000
Interest payable.....	1,500	1,250

4. (20%) A company issued 10%, 10-year bonds with a par value of \$2,000,000 on January 1, 2008, at a selling price of \$1,770,590, to yield the buyers a 12% return. The company uses the effective interest amortization method. Interest is paid semiannually each June 30 and December 31.

Prepare an **amortization table** and **journal entries** for the first two payment periods using the format shown below:

Semiannual Interest Period	Cash Interest Paid	Bond Interest Expense	Discount Amortization	Unamortized Discount	Carrying Value
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5. (6%) A company reported net income of \$978,000 and paid \$105,000 in preferred cash dividends during the current year. The company had 200,000 common shares issued, and 10,000 common shares in treasury. The year-end market price per common share was \$73.24. Calculate the company's **price-earnings ratio**.

6. (15%) Town Co. uses the allowance method of accounting for uncollectible accounts. Town Co. accepted a \$50,000, 6%, 90-day note dated March 16, from County Co. as in exchange for its past-due account receivable. Make the necessary general journal entries for Town Co. on March 16 and the June 14 maturity date, assuming that the:

- a. Note is held until maturity and collected in full at that time.
- b. Note is dishonored; the amount of the note and its interest are written off as uncollectible.



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Calculus

- Assume that the firm faces a production function $q = q(L)$. Define *marginal value product of labor* ($MVP(L)$) as the market value of the output created by employing one more unit of labor; define *marginal revenue product of labor* ($MRP(L)$) as the extra revenue accrued to the firm which results from using an additional unit of labor.
 - (5%) Use notations such as the revenue function $R(q)$, marginal product of labor $MP(L) = \frac{dq}{dL}$ to describe $MVP(L)$ and $MRP(L)$.
 - (10%) Show that for a monopoly, $MRP(L) < MVP(L)$.
 - (5%) Demonstrate the inequality established in (b) by calculating with an inverse demand function $p(q) = 40 - q$ and production function $q(L) = L^{1/2}$.
- (7%) Find the value of $(a - b)$ for which the limit $\lim_{x \rightarrow \infty} \left(\frac{x^2 + 1}{x + 1} - ax + b \right) = -1$.
- A firm's production capacity is represented by a cost function $f(L, K) = L^{1/4} K^{3/4}$:
 - (3%) Derive its marginal product functions.
 - (3%) Characterize this production function by using mathematical terms such as homotheticity, monotonicity, convexity, concavity and etc.
 - (3%) Characterize this production function by using economic terms such as transitivity, Pareto improvement, returns to scale, price discrimination, and etc.
 - (6%) Describe Euler's Theorem and apply the theorem to the above production function. What features can be derived from the analysis?
- (8%) Find the derivative $\frac{dy}{dx}$ of $x^2 + y^2 = xy^2 + 3y^3$ at $(x = 2, y = 1)$.

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試題隨卷繳交

考試科目	微積分	系別	財政系	考試時間	7月11日 星期五	第4節
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計算題 (每題 10%，需有計算過程始計分)：

5. $\int \frac{1}{x(x-1)(x-2)} dx = ?$

6. $\int x e^{-2x} dx = ?$

7. 令 $F(x) = \int_x^{x+1} 1+s-s^2 ds$ ，試求函數 $F(x)$ 的極大值。

8. 假設 $\alpha \geq 0$ ， $\beta \geq 0$ ，令 $A(\alpha, \beta) = \int_0^1 x^\alpha (1-x)^\beta dx$ 。試證明

(i) $A(\alpha, \beta) = A(\beta, \alpha)$ 。

(ii) $A(\alpha, \beta) = \frac{\beta}{1+\alpha} A(\alpha+1, \beta-1)$ 。

9. 假設消費者對汽油的需求函數為 $D(p) = 2000 - 10p$ ，其中 p 為汽油價格。
試問當汽油價格由 100 漲到 120 時，消費者剩餘將減少多少？