請將選擇題的答案依序填寫在「答案卷的選擇題專用頁」

第一部份 此部分 15 題(第 1~14 題為單選題，第 15 題為填充題)，每題 4 分，合計 60 分

1. 假設目前 NT:US(台幣：美元)匯率為 30:1，現在台灣之 CPI(消費者物價指數)為美國 CPI 之 50%、台幣一年期 R_f(risk-free rate)=2%、美國一年期 R_f=5%，如果 Purchasing Power Parity 成立，一年後 NT:US 之匯率應該等於 ____：1　(1) 20 以下　(2) 20.01~30　(3)30.01~40　(4)40.01 以上

2. 延續上一題，如果 Interest Rate Parity 成立，一年後 NT:US 之匯率應該等於____：1　(1) 20 以下　(2) 20.01~30.1　(3)30.01~40　(4)40.01 以上

3. 我們應該使用什麼方法來計算選擇權之價值：(A)Net Present Value 法　(B)複製法　(C)CAPM 法　(D)APT 法　(E)風險中立法：(1)A　(2) BE　(3)ABE　(4) ACE　(5) BCDE

4. 如果我們打算放空 LKK Stock (β值= 2)，但因為交易限制而不可放空 LKK，我們應該放空以下哪一『替代』股票最能夠達到原本之目標？(1)與 LKK 相同產業中的一支股票(2)與 LKK 之相關係數等於 0.95 而且 β值= 1 之股票(3) β值= 2、而且與 LKK 相同產業中的股票(4) β值= 2 而且與 LKK 之相關係數等於 0.92 之股票

5. 延續上題，如果原本打算放空 LKK Stock100 元，則你應放空上一題替代股票____元：(1) 50　(2) 100 (3) 200 (4) 95 (5) 92 (6)以上皆非

6. 我們根據以下那一原則證明而得到 MM 資本結構無關論：(1) arbitrage-free argument (2) Investors are risk adverse (3) Investors prefer more to less (4) time value of money principle (i.e.,今日一元的價值大於明年一元的價值) (5) Agency costs exist.

7. 下列哪一個應該用 real option 方法來分析或計算？(1) 保險公司併購商業銀行　(2)自來水費率　(3) 捷運費率　(4) 策略性投資　(5) 購買自動化設備以降低成本

8. 債券之利率風險指標應該為(A)maturity (B)duration (C)convexity (D)yield：(1)A　(2)B　(3)A,C　(4)B,C　(5)A,B,C　(6) B,C,D　(7)B,D　(8)A,B,C,D

9. 關於 Bond immunization 以下何者正確？(A)我們可以用 zero-coupon bond 達到與 immunization 相同的效果　(B) Immunization 可以達到效果是因為利息 re-investment 得到的 return (或 loss)剛好抵銷賣掉 bond 的價格損失(或利得) (C) Immunization 可以用來規避某一段期間的債信風險(default risk)：(1)A (2)B (3)C (4)A,B (5)A,C (6)B,C (7)A,B,C

10. 請問以下敘述是否正確：投資『台灣股票指數買權』具有損失有限（頂多損失權利金）、但獲利無窮之特性，因此比投資『台灣股票指數 EFT（Exchange Traded Fund）』風險更低。(1)正確 (2)錯誤

11. If the market is efficient, the correlation coefficient between stock index return over the year 2005 and stock index return over the year 2006 should be：(1)positive　(2)0　(3)1　(4) negative　(5) -1　(6) 0.5

12. 台股期貨之乘數(multiplier)為每點$200，目前每口(到期日：2個月後)之價格為 10,000 點，每口 initial margin=$15 萬、maintenance margin=12 萬，你有現金 1000 萬元，如果你買了 12 口台股期貨，並且根據 margin requirements 支付保證金給券商，其餘現金則買政府公債，假設期貨到期以前均無追繳保證金，請問你的部位之β值 =_____ (說明：如果你將 1000 萬元全部用來購買台股 ETF，你的β值= 1) (1) 0 ~ 1 (2) 1.01 ~ 2 (3) 2.01 ~ 3 (4) 3.01 ~ 4 (5) 4.01 以上

13. Company X announces to buy Y. Before merger announcement, A's stock price= $20 per share. B's share price= $10. Number of shares: A = 10 shares, B= 10 shares. Present value of synergy= $100. Company A offers 10 common shares and cash $10 to buy B. After the announcement, A's share price=_____ (1)10~15 (2)15.01~20 (3)20.01~25 (4)25.01~30 (5)30.01 以上

14. 延續上一題：After the announcement, B's share price=_____ (1)10~15 (2)15.01~20 (3)20.01~25 (4)25.01~30 (5)30.01 以上

15. (填充題，只寫答案，請不要寫計算過程) A 公司原為零負債(股東權益市值=10 億元，股東要求報酬率=12%)，現在 A 公司決定以舉債 1 億元方式買回公司股票，舉債利息為 2%，請問舉債買回股票後公司資金成本(WACC)=_____，假設沒有稅、沒有資訊不對稱，市場投資組合預期報酬率=10%。

第二部份: 計算題與問答題 (40 分)

Q1-Q4. 20 分

WidgetWorld Co.
Balance Sheet for Dec. 31, 2001

Cash	$50	Accounts payable	$100
Inventory	$150	Notes payable	100
Fixed assets	$600	Long-term debt	350
		Equity	250
Total assets	$800	Total liabilities & equity	$800

Income statement for 2001

Sales	$800
Costs	600
EBT	$200
Taxes (34%)	68
Net income	$132

Q1. Suppose that current assets, costs, and accounts payable maintain a constant ratio to sales. The firm retains 40% of earnings. If the firm is producing at only 90% capacity, what is the total external financing needed if sales increase 25%?

Q2. Suppose the firm retains 28% of earnings, while assets and costs maintain a constant percentage of sales. If the firm is producing at full capacity, what is the internal growth rate?

Q3. Suppose that assets and costs maintain a constant ratio to sales. The firm retains 30% of earnings. If the firm is producing at full capacity, what is the maximum growth rate, assuming no equity sales, that will maintain a constant debt-equity ratio?

Q4. Suppose the firm wishes to maintain a constant debt-equity ratio, retains 60% of net income, and raises no new equity. Assets and costs maintain a constant ratio to sales. What is the maximum increase in sales the firm can achieve?

Q5. 10分

You will bid to supply 3 machines per year for each of the next three years to the China Steel Company. To get set up, you will need $10 million in equipment, to be depreciated straight-line to zero over three years, with no salvage value. Total fixed costs per year are $5 million, and variable costs are $7 million per jet. Assuming a tax rate of 30% and a required return of 10%, what is the minimum price at which you should offer to supply the jets?

Q6. 10分

The current market value of the assets of Jack's, Inc. is $62 million. The firm has zero coupon bonds outstanding with a total face value of $36 million. The bonds mature five years from now. Assume the value of firm's value will follow normal distribution with N(d1) equal to 0.86 and N(d2) equal to 0.77. The risk-free rate is 6 percent compounded continuously. What is the market value of the firm's equity?

選擇的答案請填寫在答案卷的"選擇題專用頁"，謝謝！

第一部份

*下列 17 道選擇題，除第 17 題 2 分外，其餘 16 題每題 3 分，共計 50 分，題目答案未必唯一。

1. A bag contains 3 white and 4 green balls. What is the probability that if 2 balls are drawn at random without replacement, both the balls are white ? (A)1/4 (B)1/5 (C)1/6 (D)1/7.

2. For a continuous random variable X, the probability of any single value of X is : (A)one (B)zero (C)determined by the cumulative function (D)determined by the probability density function.

3. The joint probability distribution function of two random variables X and Y is as $f(x,y) = x+3y$, $0 \le x \le 3$ and $0 \le y \le 3$. Then, the random variables in this question are : (A)independent (B)dependent (C)neither independent nor dependent (D)cannot answer based on the information provided.

4. A distribution of returns that has a greater percentage of small deviations from the mean and a greater percentage of extremely large deviations from the mean : (A)is positively skewed (B)is a symmetric distribution (C)has positive excess kurtosis (D)has negative excess kurtosis.

5. Which of the following is most accurate regarding a distribution of returns that has a mean greater than its median? (A)It is positively skewed (B)It is a symmetric distribution (C)It has positive excess kurtosis (D)It has negative excess skewness.

6. Which of the following statements about skewness and kurtosis is **FALSE** ? (A)Kurtosis is measured using deviations raised to the fourth power (B)Positive values of kurtosis indicate a distribution that has fat tails, referred to as platykurtic (C)Values of relative skewness in excess of 0.5 in absolute value indicate large levels of skewness (D)Relative skewness is equal to the absolute skewness divided by the cubed standard deviation.

7. What is the appropriate test statistic for constructing confidence intervals for the population mean of a normal distribution when the population variance is unknown ? (A)The Z-statistic at α with n degrees of freedom (B)The Z-statistic with n-1 degrees of freedom (C)The t-statistic at $\alpha/2$ with n degrees of freedom (D)The t-statistic at $\alpha/2$ with n-1 degrees of freedom.

8. What is the appropriate test statistic for constructing confidence intervals for the population mean of a abnormal distribution when the population variance is unknown and the sample size is large ? (A)The Z-statistic or the t-statistic (B)The Z-statistic at α with n degrees of freedom (C)The t-statistic at α with 29 degrees of freedom (D)The t-statistic at $\alpha/2$ with n degrees of freedom.

9. In a sample of 100 students, 60 indicated that they were opposed to a tuition increase to fund a new athletic facility. Which of the following is closest to the 90 percent confidence interval for the population proportion of all students opposed to the tuition hike? (A)0.52 to 0.60 (B)0.50 to 0.70 (C)0.52 to 0.68 (D)0.55 to 0.67

10. The mean lifetime mileage and variance of 50 Brand X tires was 40,000 and 5,000, respectively. The mean lifetime mileage and variance of 75 Brand Y tires was 48,000 and 6,500, respectively. Which of the following is closest to the 95 percent confidence interval for the difference in the mean lifetime mileage of Brand Y and Brand X tires ? (A)7,973 to 8,027 miles (B)7,967 to 8,023 miles (C)7,634 to 8,366 miles (D)7,413 to 8,587 miles.

11. Which of the following statements about hypothesis testing is **TRUE** ? (A)A Type **II** error is rejecting the null when it is actually true (B)If the p-value is greater than the significance level, fail to reject H_0 (C)The significance level equals one minus the probability of a Type I error (D)If the alternative hypothesis $H_1: \mu > \mu_0$, then the test is a two-tailed test.

12. Which of the following statements is **FALSE** ? (A)A Type **I** error is rejecting the null when it is actually true (B)Failing to reject the null when it is false is an example of a Type **II** error (C)The probability of committing a Type **I** error is the significance level of the test (D)If a person is presumed innocent unless proven otherwise, finding a guilty person innocent is an example of a Type **II** error.

13. In a hypothesis test, the null hypothesis is that the population mean is equal to 90 versus the alternative hypothesis the population mean is not equal to 90. A sample of 100 elements selected from this population produced a mean of 84 and a standard deviation of 10. If hypothesis testing is conducted at the 5 percent significance level, the **CORRECT** decision is to : (A)reject the null hypothesis (B)fail to reject the null hypothesis (C)accept the alternative hypothesis (D)It is impossible to reach a decision because of the large value for the computed Z. (*| t(0.025,99)| ≈ 1.984)

14. A study was conducted to determine whether the standard deviation of monthly maintenance costs of a Pepper III aircraft is $300. A sample of 30 Pepper IIIs had a monthly maintenance costs of $3,025 and a standard deviation of $325. Using a 5 percent level of significance, which of the following is the most appropriate conclusion regarding the difference between the hypothesized value of the population variance and the sample variance ? (A)The difference is not meaningful (B)The population and sample variances are significantly different (C)The population and sample variances are not significantly different (D)There are no tests that may be used to test variance differences of small samples. (*The critical chi-square values are 16.047 on the left and 45.722 on the right.)

15. What is the computed value of the test statistic that follows an F-distribution when sample variances are equal and the level of significance is 0.10 ? (A)0.10 (B)0.90 (C)1.00 (D)0.05

16. Which of the following is not a common characteristic between the F-distribution and chi-square distribution ? They : (A)are both asymmetrical (B)are both bound by zero on the left (C)are both defined by degrees of freedom (D)both have means that are less than their standard deviations.

17. Three events, X, Y, and Z are considered independent if they are pairwise independent. That is : (A)P(X and Y)=P(X)P(Y) (B)P(Y and Z)=P(Y)P(Z) (C)P(X and Z)=P(X)P(Z) (D)P(X and Y and Z)=P(X)P(Y)P(Z).

第二部分 (共50分)

I. 複選題 (30分，每題3分)

1. What are the basic assumption behind regression models?
   (A). Stochastic regressors.
   (B). The independent variables have to be independent
   (C). Error terms are uncorrelated.
   (D). Error terms all have constant variances.

2. What are the ways to overcome the autocorrelation problem in regression analysis?
   (A). Addition of independent variables
   (B). Omission of independent variables
   (C). Transforming variables
   (D). Use of Autoregression

3. There are some assumption for the F test in ANOVA to be valid and those assumption are
   (A). Normality
   (B). Large sample sizes
   (C). Equal variances
   (D). Independence

4. A manufacturer has purchased a lot of 1700 ring seals from a producer. The manufacturer's inspectors are using a single-sample acceptance sampling plan to decide whether or not to accept the lot. The sample size is 10, and if the inspectors find any seals out of conformance in the sample, the lot will be rejected.
   (A). Suppose the lot has 5% nonconforming seals and that this is acceptable to the manufacturer. The producer's risk is 32%.
   (B). Suppose the lot has 5% nonconforming seals and that this is acceptable to the manufacturer. The producer's risk is 40%.
   (C). Suppose the lot contain 14% nonconforming seals and that this is unacceptable to the manufacturer. The consumer's risk is 22%.
   (D). Suppose the lot contain 14% nonconforming seals and that this is unacceptable to the manufacturer. The consumer's risk is 28%.

5. In a simple linear regression analysis, which of the following are true
   (A). The F test and t test may or may not yield the same results.
   (B). The relationship between X and Y is represented a straight line
   (C). The value of $F = t^2$
   (D). Sum of the residuals always is zero

6. Which of the following statements for multicollinearity in regression analysis are correct?

(A). It is difficult to interpret the estimates of the regression coefficients.

(B). Inordinately small t value for the regression coefficient may result

(C). The standard deviation of regression coefficients are underestimated

(D). The algebraic sign of estimated regression coefficients may be the opposite of what would be expected for a particular predictor variable.

7. Which of the following statements for Paasche Price Index are correct?

(A). Paasche Price Index is weighted aggregate price index computed by using the quantities of the based years for all other years

(B). The advantage of this index is that it incorporates current quantities figures in the calculations.

(C). The disadvantage is that ascertaining quantity figures for each time period is expensive.

(D). All of above are correct.

8. Which of the following statements for heteroscedasticity in regression model are correct?

(A). Heteroscedasticity can arise as a result of the presence of outlier.

(B). Heteroscedasticity destroy the unbiasedness and consistency properties of OLS estimators

(C). OLS estimators are no longer minimum variance or efficient.

(D). All of above are correct.

9. Which of the following statements for autocorrelation in regression model are correct?

(A). Autocorrelation can arise because of inertia or sluggishness in economic time-series.

(B). Autocorrelation could be resulted from using the incorrect functional form.

(C). OLS estimators remain unbiased as well as consistent.

(D). OLS estimators remain efficient

10. Which of the following statements for nonparametric statistics are correct?

(A). Nonparametric statistics are based in fewer assumptions about the population than parametric statistics.

(B). The computations on nonparametric statistics are usually less complicated than those for parametric statistics, particular for large samples.

(C). Probability statements obtained from most nonparametric tests are exact probabilities

(D). Nonparametric testes can be wasteful of data if parametric tests are available for use with the data.

II. 單選題 (10 分，每題 2 分)

1. Which of the following tests is used to determine whether an additional variable makes a significant contribution to a multiple regression model?

(A). t test .

(B). Z test

(C). F test

(D). Chi-square test

2. When a qualitative variable is entered into a model by using dummy variables,
   (A). The number of dummy variables entered for the qualitative variables equals the number of levels of the qualitative variable.
   (B). The number of dummy variables entered for the qualitative variables always one less than the number of levels of the qualitative variable.
   (C). Only one dummy variable needs to be entered into the model.
   (D). None of above is correct.

3. A person wishes to compare the means of three populations. The data is ordinal. Which of the following should be used?
   (A). One-way analysis of variance
   (B). Kruskal-Wallis
   (C). Wilcoxon
   (D). Mann-Whitney

4. Most "Before and After" types of experiments should be analyzed using
   (A). Chi-square goodness of fit test
   (B). Kruskal-Wallis test
   (C). Mann-Whitney U test
   (D). Wilcoxon test

5. Which of the following is an acceptable method to identify multicollinearity in a regression model?
   (A). Examine a residual plot
   (B). Examine the ANOVA table
   (C). Examine a correlation matrix
   (D). Examine the partial regression coefficients

III. 問答題 (10分)

How does the classical methodology choose a regression model in the first place? Please list the criteria and explain.

※ 請將選擇題的答案依序填寫在答案卷的選擇題的專用頁上。

總體經濟部分：選擇題，每題三分，單選

1. 設有典型 AS-AD 模型，AD 為典型 IS-LM 模型構成，需求量由消費，投資及政府支出組成。有一正斜率 AS 線，若 AS 線右移，則在新均衡，需求量及供給量皆較前為高，在新均衡中下列敘述何者錯誤？A)消費量增加 B)利率下跌，投資量增加 C)政府比例稅收入增加 D)所得上升致利率上揚，投資量減少

2. 以典型 IS-LM 模型分析美國執行寬鬆貨幣政策，則美國經濟發生利率下跌，所得上升的現象。美國經濟變動之後，以典型 IS-LM-BP 模型分析對台灣的影響，假定台灣採浮動匯率，物價不受匯率影響，資本移動自由，下列何者正確？A)資本流入台灣減少 B)台灣利率下跌 C)台幣升值 D)台灣貨幣供給增加

3. 以典型 IS-LM 構成總需求線，政府徵收定額稅及比例稅，若一國同時採取擴張貨幣政策及減少定額稅的財政政策，配合一般正斜率總供給線分析，新均衡與原均衡相較，下列何者正確？A)利率下跌 B)政府稅收增加 C)物價下跌 D)實質貨幣供給減少 E)消費支出增加

4. 報載去年台灣國際收支呈現逆差，其原因為 A)貿易逆差 B)資金外流增加 C)國內企業投資不振 D)政府財政赤字增加 E)外匯存底增加

5. 下列有關台灣去年的經濟狀況的描述何者錯誤？ A)消費者物價上漲率低於 4% B)經濟成長率低於 7% C)失業率高於 3% D)貨幣供給 M2 年增率高於 12% E)出口成長率高於 2%

6. 今年美國聯邦準備銀行連續調降聯邦資金利率，迄二月底，十年期公債利率卻未見下跌，下列何者不是可能的原因？A)預期未來通膨 B)預期未來經濟成長 C)預期未來美元升值 D)預期美國未來財政赤字擴張 E)國際投資人看衰美國，不願投資美國公債

7. 若你觀察到實質工資上升與經濟成長同時發生，則依古典學派理論，何者是其可能原因？A)技術進步致勞動生產力增加 B)勞動力增加 C)實質貨幣供給增加 D)政府支出增加 E)民間投資減少

8. 依跨期消費理論，凱因斯的消費函數中的自發性消費可能因何原因而增加？A)利率上升 B)利率下降 C)預期未來所得上升 D)預期未來所得下降 E)本期所得上升

9. 下列何種事件會增加貨幣供給 M1b 數量？ A)政府為籌措資金,宣佈增加發行五千億元的公債 B)民間預期台幣貶值，紛紛轉存外幣 C)股市交投興旺，股民將定存轉為活存 D)中央銀行宣佈提高重貼現率

10. 某甲去年所得 100 萬，購買消費品 60 萬，購買股票 12 萬，銀行存款增加 5 萬，償還銀行貸款 15 萬，繳稅 8 萬則在去年的國民所得帳中儲蓄為 A)40 萬 B)32 萬 C)17 萬 D)5 萬

11. 最近新加坡及香港皆採取退稅政策,過去已繳稅款已轉存央行,若將過去已繳稅款退回,以典型 IS-LM 模型分析，新均衡與原均衡相較，下列何者錯誤？A)消費支出增加 B)利率上揚 C)所得增加 D)貨幣供給增加

12. 為抑制物價膨脹可能惡化的傾向,政府應採取的對策是: A)降低利率 B)促使本國貨幣升值 C)降低所得稅率 D)提高進口關稅

13. 固定匯率的優點是 A)進出口商可以不必顧慮匯率的波動 B)央行無須干預外匯市場 C)外匯市場常處於均衡 D)促進貿易順差

14. 設 $C=100+0.8Y$，$I=200$，若實際產出$=1,000$，則有 A)預擬的消費$=1,300$ B)實現的投資$=200$ C)意外的存貨增加 D)預擬的消費$=900$

15. 貨物市場均衡時 A)$I+S=T+G$ B) $I+G+X=S+T+M$ C)$I+T=S+G$ D)$S=I+T+G$

16. 依據 IS-LM 模型，貨幣供給對所得沒有影響，如果 A)貨幣需求與利率呈負向關係 B)支出水準不受利率影響 C)貨幣需求不受利率影響 D)貨幣需求不受所得影響

17. 台灣的核心物價指數是 A)CPI 扣除食物及能源項目後的物價指數 B)WPI 扣除食物及能源項目後的物價指數 C)食物及能源項目的物價指數 D)食物及衣物項目的物價指數

個體經濟部份

一、選擇題（單選，每題 3 分，共 45 分）

18. 某一個產業的沉沒成本非常的高，而相較之下變動成本則很小，此種產業價格變化的輻度：

　　(A) 較大　　　　(B) 價格由需求決定，與成本結構無關

　　(C) 較小　　　　(D) 以上皆非

19. 考慮有 100 個人，二個財貨 X 與 Y 的經濟體，其中 A 消費者的效用函數為：$U_A = lnX_A + lnY_A$，已知達到柏拉圖效率的競爭均衡時，消費者 A 的最適均衡量為 $(X_A^*, Y_A^*) = (12, 15)$，請問此時 P_x^* 及 P_y^* 的均衡價格比為：

　　(A) 1　　　　(B) $5/4$　　　　(C) $1/2$

　　(D) 2　　　　(E) 以上皆非

20. 假設消費者的效用函數 $U(X, Y) = XY$，$P_x = 4$，$P_y = 2$，所得 $m = 120$，請問消費者的 X 財貨馬夏爾（未受補償）普通需求曲線為何？

　　(A) $X = \dfrac{30}{P_x}$　　　　(B) $X = 12P_x + 10$　　　　(C) $X = \dfrac{60}{P_x}$

　　(D) $X = 12P_x + 5$　　　　(E) 以上皆非

21. 若某人之效用函數為 $U = x_1 + x_2$，所得預算式為 $2x_1 + x_2 = 100$，其他條件不變下，請問 x_1 的價格下跌為 $1/2$ 時的所得效果為何？

　　(A) 100　　　　(B) 200　　　　(C) 50

　　(D) 0　　　　(E) 以上皆非

22. 已知風險情況下，某人可能獲得的最高所得為 \$10,000，其或然率為 P，最低所得為 \$1,000，其或然率為 $(1-P)$，且知此人擁有所得 \$5,000 的 N−M 效用指數為 55，請問 P 要為多少，此人才會對風險情況的預期效用與擁有所得 \$5,000 的效用相同？（假設所得 \$10,000 和 \$1,000 的 N−M 效用指數分別為 100 和 10）

　　(A) 0.3　　　　(B) 0.4　　　　(C) 0.5

　　(D) 0.6　　　　(E) 0.7

23. 廠商的生產函數為 $Q = min(5K, 10L)$；$P_k = 2$，$P_L = 3$，試求廠商的長期成本函數（LTC）為何？

　　(A) $LTC = 8Q$　　　　(B) $LTC = \dfrac{7}{10}Q$

　　(C) $LTC = \dfrac{3}{4}Q$　　　　(D) $LTC = \dfrac{4}{3}Q$

　　(E) $LTC = 5Q$

24. 下列敘述何者正確？

(A) 效用函數代表著理性消費者的主觀偏好

(B) 顯現性偏好較效用函數更能反映消費者的喜好

(C) 需求曲線是立基於消費者的效用可以計數的假設之上

(D) 用計數效用分析法較序數效用分析法來分析消費者行為時，更為週延及完整

25. 某完全競爭廠商的成本函數為 $TC = 0.1q^3 - 10q^2 + 400q + 520$，當 P 低於何種水準時，該廠商（在短期）會停止生產？

(A) 130

(B) 140

(C) 150

(D) 160

26. 獨佔廠商在 A 和 B 兩市場差別取價，假設 A 和 B 市場的需求彈性為 2 及 4，當 A 市場定價為 120 元時，B 市場的售價應為多少？

(A) 90

(B) 50

(C) 60

(D) 70

(E) 80

27. 某獨佔廠商面臨市場需求曲線為 $D(P) = 60 - \dfrac{P}{2}$，但它有二家工廠，各自的成本函數為 $C_1 = 2q_1^2$；$C_2 = q_2^2$。試求各廠的產量為何？

(A) $q_1^* = 5$，$q_2^* = 10$

(B) $q_1^* = 7$，$q_2^* = 14$

(C) $q_1^* = 9.5$，$q_2^* = 19$

(D) $q_1^* = 10$，$q_2^* = 20$

(E) $q_1^* = 7.5$，$q_2^* = 15$

28. 某獨佔性競爭廠商之平均成本函數為 $AC = Q^2 - 16Q + 100$，假如此時廠商面臨的需求曲線為 $D(P) = 64 - 2Q$，請問此時廠商之利潤為何？

(A) 100

(B) 98

(C) 96

(D) 94

(E) 92

29. 假設某人要出售一具風險情況資產，若災害發生，其資產僅可賣得$10,000，而或然消費為 C_1，若災害沒有發生，其資產可賣得$100,000，而或然消費為 C_2，設災害發生之或然率 P=0.4，且此人以或然消費為變數的預期效用函數為 $U(C_1, C_2) = P \cdot \sqrt{C_1} + (1-P) \cdot \sqrt{C_2}$，並假設此人有機會在公平保費政策下，購買保險以降低風險，則試求在最適的情況下，其所需支付的保費為多少？

(A) 90,000

(B) 72,000

(C) 36,000

(D) 12,000

(E) 48,000

30. 某產品工業之反需求曲線為 P＝200－Q，私人邊際成本（Marginal Private Cost）曲線 MPC＝80 ＋Q；由於生產排放廢水而產生了外部成本，邊際外部成本（Marginal External Cost）曲線為 MEC ＝Q，請問政府須對產業每單位課多少庇古稅方可以達到社會最適的產量？

(A) 0.001　　　　　(B) 0.015　　　　　　(C) 0.005

(D) 0.01　　　　　(E) 0.05

31. 某完全競爭產品市場有 100 家相同廠商，其成本函數均為 $C = \frac{5}{9}q^2 + 100$，假設市場上有 500 名消費者，每個人的需求函數均為 $q^d = 100 - 2P$，請問市場的均衡價格？

(A) 90　　　　　　(B) 5000/109　　　　　(C) 4/31

(D) 80/17　　　　　(E) 48

32. 領導廠商模型如下：已知整個產業的需求函數為 Q＝250－P，所有小廠的供給量為 q＝－230+9P，領導廠商的邊際成本 MC＝Q_D，試求整個產業的產量為何？

(A) 250　　　　　　(B) 206　　　　　(C) 44

(D) 40　　　　　　(E) 285

二. 簡答題（4 分）

（1） Chris Anderson 在 2006 年提出一種新的市場現象稱為長尾理論（the long tail），請說明在何種成本結構下，長尾理論方得以實現？（請於 100 字內簡短作答，超過 100 字將會扣分）