

臺灣綜合大學系統 109 學年度學士班轉學生聯合招生考試試題

科目名稱	經濟學	類組代碼	共同考科
		科目碼	E0021

※本項考試依簡章規定各考科均「不可」使用計算機

本科試題共計 3 頁

I (50pts, 5pts each) Answer each of the following questions either TRUE, or FALSE. Please explain your answer. No credit is given to any answer without correct reasoning.

1. The firm in a monopoly market is not a price taker, and so it might set the price of the product at where the elasticity of demand is greater than 1 in magnitude.
2. If income rises and the price of good x falls, the consumer will always buy more units of good x .
3. In a dollar auction game, the auctioneer offers to auction off a dollar bill to the highest bidder. This is an open-outcry auction, so people just shout out their bids. The winning bidder pays her bid (the highest bid received), but the second-highest bidder must also pay the auctioneer the amount of her highest bid. The equilibrium bidding strategy in this game is to bid \$1.00.
4. Three investment options are available in a market. All three options provide the same expected rate of return but have different levels of risk associated with them. Investing in Option A is the riskiest, while investing in Option C is the safest. Option B has a moderate level of risk associated with it. A risk-neutral individual will choose Option B.
5. The moral hazard problem occurs when one agent in a transaction knows about a hidden characteristic of a good.
6. The Solow growth model predicts that economies with higher savings rates will have higher income per capita in the long run than identical economies with lower savings rates.
7. Monetary policy is most effective under fixed exchange regime.
8. According to the Taylor principle, an increase in inflation by one percentage point should prompt the central bank to raise the real interest rate by more than one percentage point.
9. If the Friedman rule for long-term monetary policy were implemented, the result would be a 2% inflation target.
10. A trade surplus will lead to an increase in foreign reserves accumulation.

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II Please explain your answer. No credit is given to any answer without correct reasoning. (50pts)

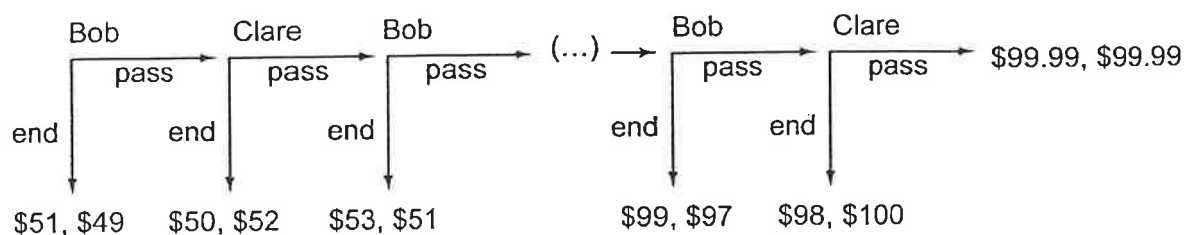
1. (5 pts) Figure 1 given below shows the payoffs to two firms for choosing two alternative strategies. The first number listed in each cell is the payoff to the row player, and the second number listed is the payoff to the column player. Find the dominant strategy equilibrium and the Nash equilibrium of this game.

Figure 1: The payoff matrix

		Firm B	
		Strategy X	Strategy Y
Firm A	Strategy X	2.4, 2.6	2.4, 0
	Strategy Y	5.2, 3.0	4, 0

2. (5 pts) Alex puts \$100 on the table. Bob chooses either to take \$51 for himself and \$49 for Clare or pass. If Bob passes, then Alex adds another \$2 and Clare chooses either to take \$52 for herself and \$50 for Bob or pass. If Clare passes, then Alex adds another \$2 and Bob chooses either to take \$53 for himself and \$51 for Clare or pass, and so on. In other words, a player chooses either to take \$2 more for himself/herself or pass, and, every time a player passes, Alex adds another \$2. The game ends if \$200 is on the table or either Bob or Clare chooses not to pass before that. If the amount on the table reached \$200, then Bob and Clare get \$99.99 each (Alex takes two pennies back). Figure 2 below shows the extensive form of this game. Bob's payoff is written first and Clare's second. Determine the equilibrium in this game.

Figure 2:



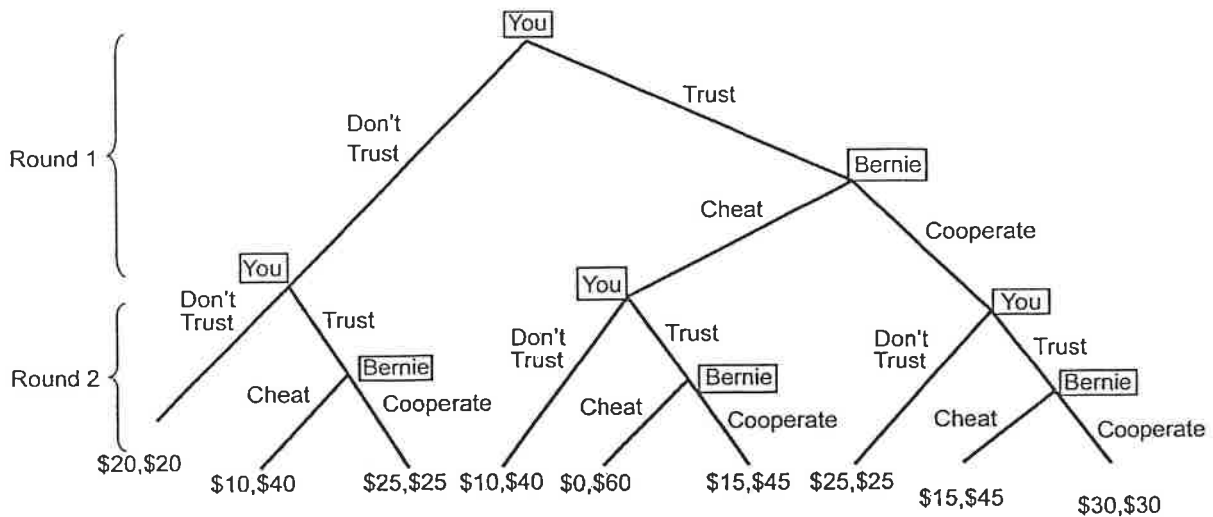
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3. Consider the game where the trust game is played twice in succession. Your payoff is written first and Bernie's second. Figure 3 shows the payoffs which are the sum of payoff in each round.

Figure 3:



- (a) (5 pts) How do you and Bernie behave in this trust game?
- (b) (5 pts) What would be the solution if the trust game is repeated many times? Say, twenty thousand times?
4. The consumer lives for 3 periods, we can interpret them as childhood, productive age and retirement. The consumer receives income y in the second period, but no income in the first and in the third period. Thus the income vector is $(y_1, y_2, y_3) = (0, y, 0)$. The consumer chooses how much to consume in period 1, 2 and 3, i.e., (c_1, c_2, c_3) , and how much to save/borrow in period 1 and 2, i.e., (s_1, s_2) . The utility function is

$$u(c_1, c_2, c_3) = \log c_1 + \beta \log c_2 + \beta^2 \log c_3$$

with $\beta \in (0, 1)$ and the gross interest rate on savings is $1 + r$.

- (a) (5 pts) Write the maximization problem as one with 3 budget constraints, one for the first period, one for the second period and one for the third period.
- (b) (5 pts) Substitute in for savings and write the maximization problem as one with 1 lifetime budget constraint.
- (c) (10 pts) Solve for the optimal choice of c_1, c_2, c_3 along with s_1, s_2 .
- (d) (10 pts) From now on assume that $\beta(1 + r) = 1$. Solve for the optimal choice of c_1, c_2, c_3 along with s_1, s_2 . Discuss briefly what is consumption smoothing. How much consumption smoothing do we see in this case?