

請直接在試題上作答, 選擇題為單選題

### Problem 1 (50%)

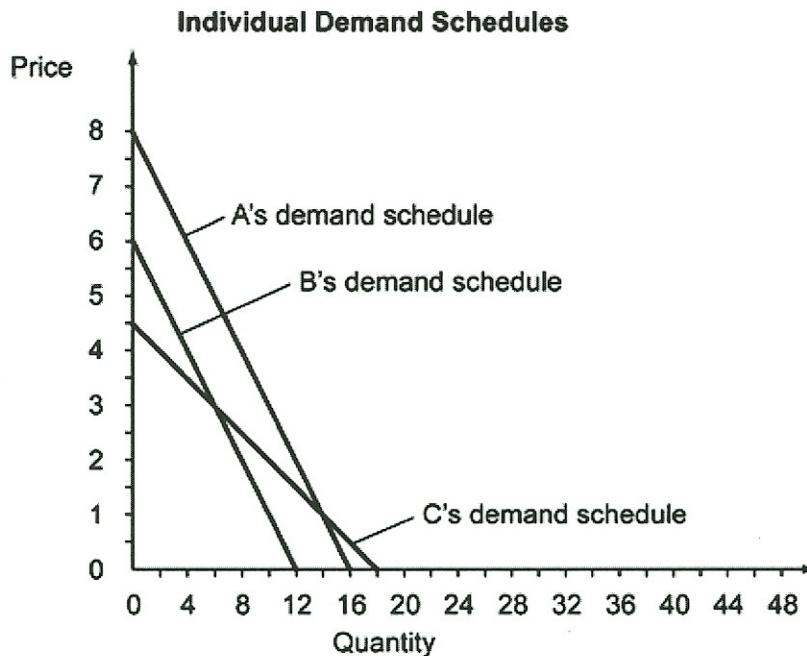
Scenario: A market researcher asks three consumers, A, B, and C, about their willingness to pay for different quantities of a bottle of Takasago Beer (高砂麥酒). She collects the following information.

Price	A's quantity	B's quantity	C's quantity	Market quantity
\$8.00	0	0	0	
\$7.50	1	0	0	
\$7.00	2	0	0	
\$6.50	3	0	0	
\$6.00	4	0	0	
\$5.50	5	1	0	
\$5.00	6	2	0	
\$4.50	7	3	0	
\$4.00	8	4	2	
\$3.50	9	5	4	
\$3.00	10	6	6	
\$2.50	11	7	8	
\$2.00	12	8	10	
\$1.50	13	9	12	
\$1.00	14	10	14	
\$0.50	15	11	16	
\$0.00	16	12	18	

- \_\_\_\_\_ 1. Refer to the scenario above. Which consumer has the highest willingness to pay for Takasago Beer?
- A) Consumer A
  - B) Consumer B
  - C) Consumer C
  - D) Consumers A and B

- \_\_\_\_\_ 2. Refer to the scenario above. If the price of Takasago Beer decreases from \$4.00 per bottle to \$3.50 per bottle, what is consumer C's change in quantity demanded?
- A) No increase
  - B) Increase of 1 bottle
  - C) Increase of 2 bottles
  - D) Increase of 4 bottles

3. Refer to the scenario above. Derive the market quantity demanded at each price and sketch the market demand curve for the graph below.



\_\_\_\_\_ 4. Refer to the scenario above. What is the change in the quantity demanded in the market if the price of Takasago Beer falls from \$4 per bottle to \$3 per bottle?

- A) No increase
- B) Increase of 1 bottle
- C) Increase of 2 bottles
- D) Increase of 4 bottles

\_\_\_\_\_ 5. Which of the following factors is expected to cause the demand curve for coffee to shift to the right?

- A) A fall in the manufacturing cost of coffee
- B) A higher tax on the sale of tea, a substitute for coffee
- C) A higher personal tax on the income of all consumers
- D) An increase in the supply of coffee due to better weather

\_\_\_\_\_ 6. World War II resulted in the destruction of much of the Taiwan's physical capital stock. Assuming the country was in steady-state equilibrium before the war and nothing else changed, what does the Solow Model predict about the years following World War II in Taiwan?

- A) A new steady-state equilibrium would emerge, with the current level of physical capital.
- B) A new steady-state equilibrium would emerge, with a level of physical capital between the current level and the pre-war level.
- C) The economy would never again reach a steady-state equilibrium.
- D) The economy would eventually return to the old steady-state equilibrium, with the original level of physical capital.

\_\_\_\_\_ 7. The following table compares labor statistics for two countries.

	Country A	Country B
Labor force	300 million	350 million
Potential workers	430 million	430 million
Employed workers	285 million	325 million

What is true about the number of unemployed workers in Country A relative to Country B?

- A) There are more unemployed workers in Country A.
- B) There are more unemployed workers in Country B.
- C) The number of unemployed workers is equal in Countries A and B.
- D) It is not possible to determine which country has more unemployed workers without knowing the unemployment rate.

\_\_\_\_\_ 8. If the annual inflation rate in an economy is  $\pi$ , then \$1 borrowed at the beginning of a year will have the same purchasing power as \_\_\_\_\_ dollars at the end of the year.

- A)  $\pi$
- B)  $1/\pi$
- C)  $1 - \pi$
- D)  $1 + \pi$

\_\_\_\_\_ 9. According to the quantity theory of money (QTM), what is likely to happen if the growth rate of money supply doubles in the following year while the growth rate of real output remains unchanged?

- A) The inflation rate will also increase but not double.
- B) The inflation rate will decrease
- C) The inflation rate will be unchanged
- D) None of the above

\_\_\_\_\_ 10. Predicting when an expansion will end is \_\_\_\_\_; predicting when a recession will end is \_\_\_\_\_.

- A) difficult; difficult
- B) difficult; easy
- C) easy; difficult
- D) easy; easy

## Problem 2 (40%)

A consumer chooses  $X$  and  $Y$  to solve the following optimization problem:

$$\max X^a Y^{1-a}$$

Subject to the following budget constraint:

$$P_x X + P_y Y = P_x \bar{X} + P_y \bar{Y}$$

Where  $\bar{X}$  and  $\bar{Y}$  are endowments.

1. Find the conditions for optimization.

2. Solve for the optimal  $X^*$ .

3. How does an increase in  $\bar{X}$  affect  $X^*$ ?

4. How does an increase in  $P_x$  affect  $X^*$ ?

### Problem 3 (10%)

Consider the Taylor Rule as follow:

$$R_t = rr + \beta \times (\pi_t - \bar{\pi}) + \delta \times (\log Y_t - \log \bar{Y}_t)$$

Where  $R_t$  denotes the Federal funds rate,  $rr$  is the long-run federal funds rate target,  $(\pi_t - \bar{\pi})$  is the difference between actual inflation and inflation rate target, and  $(\log Y_t - \log \bar{Y}_t)$  is the output gap.

1. Should the parameter  $\beta$  be positive or negative? Why?

2. Should the parameter  $\delta$  be positive or negative? Why?