

Exam Kit Plus 1

Chapter 3 Demand and supply

I. Exam Trends

	3.1 Demand and quantity demanded	3.2 Important points about the concept of demand	3.3 Law of demand	3.4 Individual demand and market demand curves	3.5 Supply and quantity supplied	3.6 Important points about the concept of supply	3.7 Law of supply	3.8 Individual supply and market supply curves	3.9 Determination of equilibrium price	3.10 Application of the law of demand Relative price and the law of demand
2005										
2006			CE II 49						Section CE I B9(a)(i)-3	Marks AL I A8
2007								Paper AL I B6	Question	
2008			CE II 6 AL I B1							AL I A10
2009										AL I A11
2010										AL I A9 AL I C8(b)
2011										AL I A9
2012		DSE I 14								AL I A9 DSE I 14
2013		DSE I 10								DSE I 16
2014										DSE II B9(c)-5
2015									DSE I 13	DSE I 18
2016										DSE I 18 DSE II B13(b)(ii)-4
2017										DSE I 13

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										Relative price and the law of demand
2018										DSE I 19
2019										DSE I 12
2020						DSE I 12			DSE II B11(b)-4	
2021										DSE II A2-4 DSE II B12(a)-2
2022										DSE I 18
2023									DSE II A11(a)-4	DSE I 10 DSE II A11(e)-2
2024									DSE I 12	DSE II B10(d)-3

II. Exam-type Questions

Multiple Choice Questions

1. Which of the following is/are assumed to be constant when the market demand curve of taxi services is derived?

- (1) the income of taxi passengers
- (2) the price of taxi services
- (3) the price of public transport

- A. (2) only
- B. (1) and (2) only
- C. (1) and (3) only
- D. (2) and (3) only

Reference: HKDSE 2013 Q10

2. Which of the following statements about the law of demand is/are correct?

- A. It does not apply when the good has no tangible form.
- B. According to the law, when the money prices of all goods increase by the same percentage, the quantity demanded for all goods will decrease.
- C. This suggests that the demand curve is downward sloping.
- D. All of the above are correct.

3. Which of the following observations can be explained by the law of demand?

- A. More diamonds are demanded when people become wealthier.
- B. When the waiting time for government dental services increases, the quantity demanded increases.
- C. More university graduates choose to continue with their studies in times of economic recession.
- D. All of the above

- *4. Which of the following is INCONSISTENT with the law of demand?
- A. The number of smokers decreases when more people are aware of the hazards of smoking.
 - B. The quantity of goods purchased online per order will fall when a lump-sum transaction cost is charged.
 - C. The quantity of land sold by the government decreases when land developers need to pay an extra administrative cost.
 - D. When the government replaces the per-unit tax on whisky with an ad valorem tax (as a percentage of price), the average quality of whisky consumed will fall.

Reference: HKDSE 2017 Q13

- *5. According to the law of demand, when a theme park raises its ticket price sharply,
- (1) the number of visitors visiting the park will fall.
 - (2) the visitors will stay in the park for more hours on average.
 - (3) the ratio of the number of local residents to foreign visitors visiting the theme park will rise.
- A. (1) and (2) only
 - B. (2) and (3) only
 - C. (1) and (3) only
 - D. (1), (2) and (3)

Reference: HKDSE 2023 Q10

6. An insurance company offers whole-year travel insurance packages without limitations on the destination as well as the number and duration of trips throughout the year.
- Suppose the insurance company sharply increases the price of these insurance packages. Buyers of these packages
- A. will travel less frequently.
 - B. will increase the duration of their trips on average.
 - C. will choose to travel to nearer destinations relatively more often than more distant destinations.
 - D. will reduce the number of trips that they travel in first and business-class.

Reference: HKDSE 2022 Q18

For questions 7 and 8, consider the following pricing arrangement of a railway company.

	Charge
First 200 km	\$1 per km
Remaining length of trip	\$0.8 per km
Handling charge	\$0

7. Suppose now the railway company decides to charge a uniform price of \$1 per km. Which of the following statements is correct?
- The demand for rail services will decrease.
 - Passengers will travel by train less often, but the proportion of long-distance trips will increase.
 - The total revenue of the railway company must increase.
 - The price of short-distance trips relative to long-distance trips decreases.

Reference: HKDSE 2018 Q19

8. Suppose the railway company imposes a \$20 handling charge. Which of the following statements are correct?
- The price of short-distance trips relative to long-distance trips will rise.
 - The proportion of passengers taking long-distance trips to all passengers will rise.
 - The number of passengers using this company's rail service will fall.
- (1) and (2) only
 - (2) and (3) only
 - (1) and (3) only
 - (1), (2) and (3)

9. The following table shows the quantities of wine sold in Economy X before and after a uniform tax of \$50 is imposed:

	Quantity of high-quality wine sold (thousand bottles)	Quantity of average-quantity wine sold (thousand bottles)
Before tax	500	2,000
After tax	Q_1	Q_2

Which of the following figures is/are consistent with the law of demand?

- (1) $Q_1 = 600$; $Q_2 = 2,100$
 (2) $Q_1 = 400$; $Q_2 = 1,500$
 (3) $Q_1 = 300$; $Q_2 = 1,400$

- A. (2) only
 B. (1) and (2) only
 C. (1) and (3) only
 D. (2) and (3) only

Reference: HKDSE 2019 Q12

10. When the price of a good increases, its _____ will _____.

- A. demand ... decrease
 B. supply ... increase
 C. quantity demanded ... increase
 D. quantity supplied ... increase

11. Which of the following statements about the law of supply is/are correct?

- A. When supply increases, the market price will rise.
 B. When quantity supplied increases, the market price will also rise.
 C. The market price and quantity supplied move in the same direction.
 D. All of the above are correct.

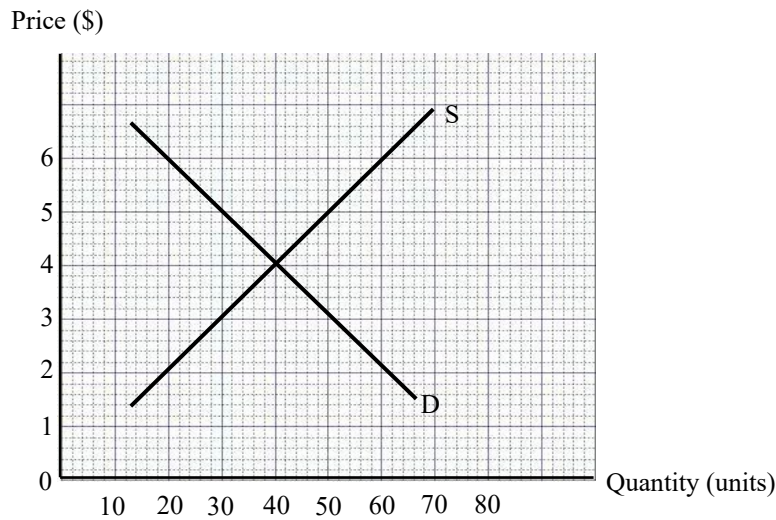
12. When there is a shortage in the market for Good Y, this implies that

- (1) its demand is larger than its supply.
 (2) there is a tendency for the market price to rise.
 (3) consumers may need to engage in non-price competition for Good Y.
 A. (1) and (2) only
 B. (1) and (3) only
 C. (2) and (3) only
 D. (1), (2) and (3)

13. Which of the following can explain why there is a surplus of Good X in the market?

- A. Consumers cannot consume all Good X they have bought.
- B. The quantity demanded of Good X is smaller than its quantity supplied.
- C. The demand for Good X is smaller than its supply.
- D. The selling price is set above the equilibrium level.

14. The following diagram shows the market demand and supply curves of Good Z.



When the price of Good Z is set at \$5,

- (1) the quantity bought and sold is larger than the equilibrium quantity.
 - (2) there is a tendency for the price to fall.
 - (3) there is a surplus equal to 20 units.
- A. (2) only
 - B. (1) and (2) only
 - C. (1) and (3) only
 - D. (2) and (3) only

15. In Country X, Peter is one of the apple consumers while May is one of the apple suppliers. The following table shows their quantities demanded and quantities supplied at different prices, respectively.

Price	\$2	\$3	\$4	\$5
Peter's quantity demanded (units)	20	20	20	20
May's quantity supplied (units)	10	15	20	25

Based on the above information, we can conclude that

- (1) Peter does not act according to the law of demand.
 - (2) the market equilibrium price of apples is \$4.
 - (3) May does not act according to the law of supply.
- A. (1) only
B. (1) and (2) only
C. (1) and (3) only
D. (2) and (3) only

Short Questions

1. Due to the conflict between Israel and Palestine, the number of visitors travelling to the Middle East has dropped significantly.
In terms of the cost of travelling to the Middle East, explain the above situation.
(3 marks)

Reference: HKDSE 2012 Q12a

2. A famous Michelin Star restaurant offers two types of set dinners. Their prices are as follows:

Special set dinner: \$1,000 / person Classic set dinner: \$800 / person
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The restaurant has recently imposed a lump-sum surcharge of \$100 per customer on weekends.

- a. State the law of demand. (2 marks)
- b. How will the proportion of the special set dinner ordered by customers on weekends be different from that on weekdays? Explain your answer using the law of demand. (3 marks)

Reference: HKDSE 2014 Q9c

3. The government of Country X plans to grant subsidies to all kindergartens. There are two proposals for the subsidy.

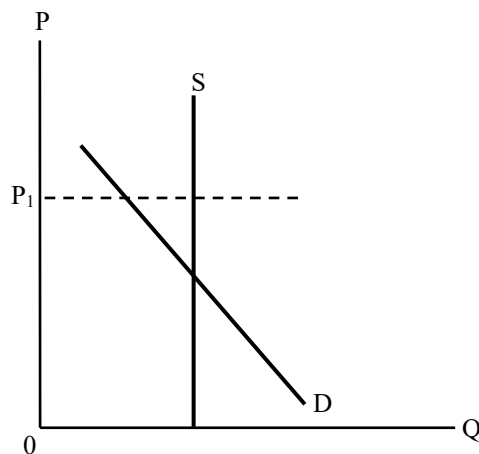
Proposal A: Provide a monthly \$400 cash subsidy to families for each child attending kindergarten.

Proposal B: Provide a 10% cash rebate of the tuition fees to families with children attending kindergarten.

Discuss the effects of the two proposals on the proportion of parents choosing half-day school programmes relative to those choosing whole-day school programmes in Country X. (5 marks)

Reference: HKDSE 2016 Q13b

4. Refer to the following diagram showing the market demand and supply curves of Good Z.



- a. Explain whether the law of supply applies in the market for Good Z. (2 marks)
- b. Explain with the aid of the above diagram why the market for Good Z is not in equilibrium when the price is set at P_1 . (1 mark)
5. When the market of a good is in equilibrium, people will not compete for the good. Do you agree? Explain your answer. (3 marks)
6. According to the Hong Kong Housing Authority, as of late September 2024, the average waiting time for public rental housing (PRH) was 5.5 years. With the aid of a supply-demand diagram, explain the above situation. (4 marks)

Reference: HKDSE 2023 Q11a

7. A local surgical mask producer says, ‘After the pandemic, we could not sell all the surgical masks produced and our unsold stock piled up.’

With the aid of a supply-demand diagram,

- a. explain why there were unsold stocks of surgical masks. (4 marks)
- b. suggest how surgical mask producers can reduce their unsold stock by adjusting the selling price. (3 marks)

Answers

Multiple Choice Questions

1. C
2. C Option B: The law of demand cannot be applied when the prices of all goods change.
3. C
4. B Option D: When the per-unit tax is replaced by an ad valorem tax, the relative price of high-quality whisky (in terms of low-quality whisky) will increase.
5. A Option (3): The percentage fall in foreign visitors tends to be smaller than that of local residents. This is because after adding the travelling expense, the percentage increase in the price is smaller from the viewpoint of foreign visitors.
6. B Option B: A higher insurance fee will be added to the costs of trips for both shorter and longer durations. Hence, the percentage increase in the costs of trips with a longer duration will be smaller than those with a shorter duration.
7. D
8. D
9. A Option (1): After a uniform tax is imposed, the quantity sold of all wine should decrease.
Options (2) and (3): The price of each bottle of high-quality wine relative to low-quality wine should decrease when a uniform tax is imposed. The ratio of high-quality wine sold to low-quality wine sold should increase.
10. D
11. C
12. C
13. D Option B: This statement only describes the definition of a surplus without offering an explanation.
14. D
15. A Option (2): The table only shows the quantity demanded and quantity supplied of an individual consumer and supplier.

Short Questions

1. Since the risk of travelling to the Middle East has become higher, travellers to the Middle East have to pay a higher cost in terms of safety (or a higher air-ticket price / insurance cost). At a higher cost, fewer people will choose to travel to the Middle East. (3 marks)

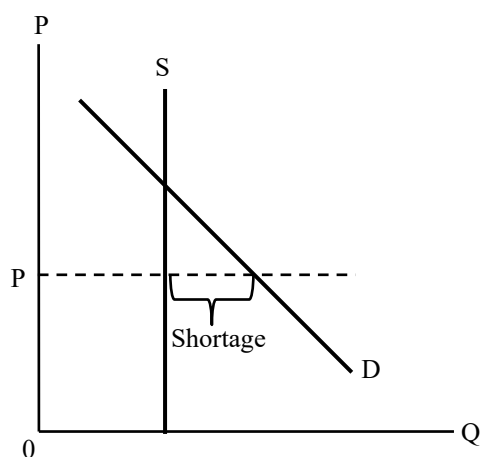
2. a. The law states that when the price of a good increases, the quantity demanded for the good decreases, and vice versa, *ceteris paribus*. (2 marks)
b. After the \$100 lump-sum surcharge is added to the price of the respective set dinner, the relative price of a special set dinner (in terms of a classic set dinner) is lower on weekends (= 1.22) than on weekdays (= 1.25). According to the law of demand, relatively more customers will order a special set dinner on weekends than on weekdays. Hence, the proportion of a special set dinner ordered by customers on weekends will be lower than that on weekdays. (3 marks)

3. Proposal A:
After the \$400 cash subsidy is deducted from the tuition fee, the tuition fee of half-day school programmes will decrease relative to that of whole-day school programmes. According to the law of demand, relatively more parents will choose half-day programmes. (3 marks)
Proposal B:
The 10% cash rebate will not affect the relative price of half-day school programmes in terms of whole-day school programmes. As a result, this proposal will not affect the proportion of parents choosing half-day school programmes relative to those choosing whole-day school programmes in Country X. (2 marks)

4. a. No, (1 mark)
because the quantity supplied does not increase (decrease) when the price increases (decreases). (1 mark)
b. At P_1 , quantity supplied is not equal to / larger than quantity demanded. (1 mark)

5. No, (1 mark)
because as long as a good has a positive price at the market equilibrium, people engage in price competition in the way that those who are able and willing to pay the price can get the good. (2 marks)

6. Indicate on the diagram:



- Price below equilibrium level (1 mark)
- Correct position of excess demand / shortage (1 mark)

Verbal elaboration:

As the rental price of PRH is set below the equilibrium price, there is excess demand / shortage for PRH, resulting in a queue for PRH. (2 marks)

7. a. Indicate on the diagram:

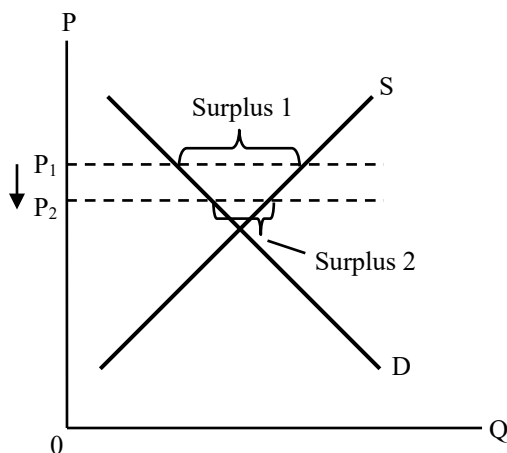
- Price above equilibrium level (1 mark)
- Correct position of excess supply / surplus (Surplus 1) (1 mark)

Verbal elaboration:

Since the selling price was set above the equilibrium price, there was excess supply / surplus in the market. (2 marks)

b. Indicate on the diagram:

- Lower price (still above or equal to the equilibrium price) (1 mark)
- Correct position of excess supply / surplus (Surplus 2) (1 mark)



Verbal elaboration:

Surgical mask producers can lower the price so that the quantity demanded will increase while the quantity supplied will decrease. Hence, the unsold stock (surplus) can be reduced. (1 mark)