Week 1

AP Macroeconomics

Homework bundle for this week

本周作业合集

exercises.lol

Contents 目录

1. Basic Economic Concepts

Starter Quiz · 课前小测

AP Macroeconomics Name: _____ Score: _____

1. Scarcity exists because:
   - ☐ wants are unlimited but resources are limited
   - ☐ people are greedy
   - ☐ governments print too little money
   - ☐ prices are too high
2. The opportunity cost of a choice is:
   - ☐ the value of the single best alternative given up
   - ☐ the money you spend
   - ☐ everything you could have done
   - ☐ always zero
3. A country has a comparative advantage in a good when it has:
   - ☐ the lower opportunity cost of making it
   - ☐ more workers than its rival
   - ☐ the higher price
   - ☐ more natural resources
4. The law of demand says a higher price leads to a:
   - ☐ lower quantity demanded
   - ☐ higher quantity demanded
   - ☐ higher supply
   - ☐ no change
5. The law of supply says a higher price leads to a:
   - ☐ higher quantity supplied
   - ☐ lower quantity supplied
   - ☐ lower demand
   - ☐ no change
6. A change in the good's own price causes a movement along the demand curve, not a shift.

   ☐ True ☐ False

7. A fall in input costs causes a movement along the supply curve.

   ☐ True ☐ False

8. Select **all** four factors of production.

   ☐ land

   ☐ labour

   ☐ capital

   ☐ entrepreneurship

   Tick every correct option.

9. Moving from A (60 consumer, 10 capital) to B (50 consumer, 25 capital), what is the opportunity cost of ONE capital good, in consumer goods?

   _____

10. Country A makes 12 wheat OR 6 cloth in a day. What is the opportunity cost of ONE cloth, in wheat?

    _____ wheat

1. Basic Economic Concepts

Answers · 答案

AP Macroeconomics

1. **wants are unlimited but resources are limited**

   Scarcity is the gap between unlimited wants and limited resources.

2. **the value of the single best alternative given up**

   It is the next-best alternative sacrificed — measured in what you give up, not just money.

3. **the lower opportunity cost of making it**

   Comparative advantage is about opportunity cost, not raw output.

4. **lower quantity demanded**

   Price and quantity demanded move in opposite directions — the curve slopes down.

5. **higher quantity supplied**

   A higher price makes producing more profitable, so quantity supplied rises.

6. **True**

   Own price → movement along; TRIBE determinants → shift.

7. **False**

   Input costs are not the good's own price — cheaper inputs shift the whole curve right.

8. **land; labour; capital; entrepreneurship**

   Land, labour, capital and entrepreneurship are the four factors.

9. **0.67**

   Give up 10 consumer to gain 15 capital, so each capital good costs $10/15 \approx 0.67$ consumer goods.

10. **2 wheat**

    Giving up 12 wheat frees enough to make 6 cloth, so each cloth costs $12/6 = 2$ wheat.

AP MACROECONOMICS • EXERCISE SHEET

1.1 Scarcity

Name: _____ Class: _____ Date: _____ **Total: 9 marks**

KEY WORDS economics 经济学 • scarcity 稀缺性 • resources 资源 • factors of production 生产要素 • capital 资本

Objective

Build the skills to answer exam questions on **scarcity** — the starting point of all economics.

You must be able to:

- explain that **scarcity** 稀缺性 exists because resources are limited but wants are unlimited
- describe how scarcity forces **choices** 选择
- classify the **factors of production** 生产要素: land, labour, capital, entrepreneurship
- distinguish **microeconomics** 微观经济学 from **macroeconomics** 宏观经济学

1 Worked examples

Study these first. Each one shows the method for a question type used later.

■ Scarcity forces choices

Resources are **limited** while human wants are effectively **unlimited**, so every individual, firm, and society must choose among competing uses.

■ The four factors of production

Land (natural resources), **labour** (human effort), **capital** (tools and machines), and **entrepreneurship** (organising the other three and taking risks).

■ The three economic questions

Scarcity forces every society to answer: **what** to produce, **how** to produce it, and **for whom** to produce.

■ Micro vs macro

Microeconomics studies individual markets and decisions; **macroeconomics** studies the whole economy (GDP, unemployment, inflation).

2 Practice

2.1 Define scarcity. [1]

2.2 List the four factors of production. [2]

2.3 State the three basic economic questions that every society must answer. [2]

3 Exam-style questions

3.1 Scarcity exists because [1]

- **A** people are lazy
- **B** wants exceed the available resources
- **C** money is limited
- **D** prices are too high

3.2 Which of these is a factor of production? [1]

- **A** money
- **B** labour
- **C** profit
- **D** demand

3.3 An economy must decide what goods to produce, how to produce them, and for whom.

(a) State why it cannot produce everything everyone wants. [1]

(b) Name the branch of economics that studies the economy as a whole. [1]

Solutions

2.1 the condition that limited resources cannot satisfy unlimited wants.

2.2 land, labour, capital, entrepreneurship.

2.3 what to produce; how to produce it; for whom to produce.

3.1 B.

3.2 B.

3.3 (a) resources are scarce (limited), so choices must be made. (b) macroeconomics.

AP MACROECONOMICS • EXERCISE SHEET

1.2 Opportunity Cost and the Production Possibilities Curve (PPC)

Name: _____ Class: _____ Date: _____ **Total: 9 marks**

KEY WORDS opportunity cost 机会成本 • economic growth 经济增长 • production possibilities curve (ppc) 生产可能 • resources 资源

Objective

Build the skills to answer exam questions on **opportunity cost and the production possibilities curve (PPC)**.

You must be able to:

- define **opportunity cost** 机会成本 as the value of the next-best alternative given up
- interpret the **production possibilities curve (PPC)** 生产可能性曲线
- link a **bowed-out** PPC to increasing opportunity cost and a straight line to constant cost
- identify efficient, inefficient, and unattainable points, and explain outward shifts

1 Worked examples

Study these first. Each one shows the method for a question type used later.

■ Opportunity cost

The **next-best alternative** given up when you make a choice — not the money price, but what you sacrifice.

■ The PPC

Shows the maximum combinations of two goods an economy can make. Points **on** the curve are efficient; **inside** are inefficient (wasted resources); **outside** are unattainable now.

■ Shape and shifts

A **bowed-out** PPC shows the law of **increasing** opportunity cost; a **straight** line shows constant cost. More or better resources, or new technology, shift the PPC **outward** (economic growth).

2 Practice

2.1 Define opportunity cost. [1]

2.2 State what a point **inside** the PPC represents. [1]

2.3 A country moves from producing 10 cars and 40 phones to 15 cars and 25 phones. Find the opportunity cost of the 5 extra cars. [2]

3 Exam-style questions

3.1 A bowed-out (concave) PPC shows [1]

- **A** constant opportunity cost
- **B** increasing opportunity cost
- **C** zero opportunity cost
- **D** falling total output

3.2 A point outside the PPC is currently [1]

- **A** efficient
- **B** inefficient
- **C** unattainable
- **D** optimal

3.3 An economy produces guns and butter.

(a) State what a point **on** the PPC represents. [1]

(b) State one cause of an **outward** shift of the PPC. [1]

(c) It moves from 20 guns and 30 butter to 25 guns and 22 butter. Find the opportunity

cost of the extra guns. [1]

Solutions

2.1 the value of the next-best alternative given up when a choice is made.

2.2 an inefficient use of resources (some are idle or wasted).

2.3 phones fall from 40 to 25, a loss of 15 phones; so the 5 cars cost 15 phones.

3.1 B.

3.2 C.

3.3 (a) an efficient, fully-employed use of all resources. (b) more/better resources or improved technology. (c) butter falls by 8, so the extra 5 guns cost 8 butter.

3. Assume that in the country of Zeta, the civilian noninstitutional population aged 16 and over is 1,000,000. The labor force participation rate is 70%, the unemployment rate is 9%, and the natural rate of unemployment is 5%.

   (a) Calculate the number of people in Zeta that are unemployed. Show your work.

   (b) Is the economy of Zeta currently experiencing a recessionary gap, an inflationary gap, or no output gap? Explain.

   (c) Consumer goods and capital goods are produced in the country of Zeta. Draw a correctly labeled graph of the production possibilities curve for Zeta. Indicate a point, labeled A, that represents the current state of Zeta's economy.

   (d) If some individuals who are counted as unemployed in Zeta stop looking for work, what will happen to each of the following?

   (i) The labor force participation rate. Explain.
   (ii) The unemployment rate

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

STOP

END OF EXAM

2. The table below shows macroeconomic data for Country A.

Year	Nominal GDP	GDP Deflator	Population
2020	40,000	100	100
2021	88,000	200	110

(a) Calculate each of the following for Country A in year 2021. Show your work.

(i) Real GDP
(ii) Real GDP per capita

(b) Based solely on the data provided, has the standard of living for the average person in Country A increased, decreased, or stayed the same between 2020 and 2021 ? Explain.

(c) How would an increase in government spending on education affect economic growth in Country A? Explain.

(d) Assume that Country A produces consumer goods and capital goods. Draw a correctly labeled production possibilities curve for Country A, and show the effect of the increase in government spending on education on your graph.

Begin your response to this question at the top of a new page in the separate Free Response booklet and fill in the appropriate circle at the top of each page to indicate the question number.

2. The European Union and the United States are trading partners.

   (a) If the current account balance is zero, will an increase in United States real income result in a current account surplus, deficit, or no change? Explain.

   (b) Draw a correctly labeled graph of the foreign exchange market for the euro. On your graph, show the effect of the increase in United States real income on the value of the euro relative to the United States dollar.

   (c) Now assume interest rates increase in the European Union.

      (i) What is the effect of the increase in interest rates in the European Union on the demand for the United States dollar? Explain.

      (ii) Based on your answer to part (c)(i), what is the effect on the value of the United States dollar relative to the euro?

---

3. Sweden and Norway use equal quantities of resources to produce food and capital goods. The table below shows the maximum possible production of food OR capital goods for each country.

Country	Food	Capital Goods
Sweden	50	100
Norway	30	120

   (a) Draw a correctly labeled graph of the production possibilities curve for Sweden. Place food on the horizontal axis and capital goods on the vertical axis. Plot the relevant numerical values on the graph.

   (b) On your graph in part (a), indicate the following.

      (i) A point that represents an efficient level of production, labeled E

      (ii) A point that represents an inefficient level of production, labeled I

      (iii) A point that represents an unattainable level of production, labeled U

   (c) Assume Sweden moves from producing 20 units of food and 60 units of capital goods to producing 30 units of food and 40 units of capital goods. What will happen to economic growth in Sweden in the future?

   (d) Which country has the comparative advantage in the production of capital goods? Explain.

   (e) Based on the table above, identify a specific number of units of capital goods that could be traded for 10 units of food and be mutually beneficial.

STOP

END OF EXAM

2. Assume the economy of Ucheland is currently at full employment. The government of Ucheland reduces the tax rate on household interest earnings.

   (a) What will happen to private savings in Ucheland?

   (b) Draw a correctly labeled graph of the loanable funds market, and show the effect of the change in private savings identified in part (a) on the equilibrium real interest rate.

   (c) Given the real interest rate change identified in part (b), answer the following questions.

      (i) What is the short-run effect on aggregate demand? Explain.

      (ii) What is the long-run effect on potential real gross domestic product in Ucheland? Explain.

---

3. Countries face trade-offs between producing consumer goods and producing capital goods.

   (a) Country X takes one hour to produce a unit of consumer goods and two hours to produce a unit of capital goods. Country Y takes two hours to produce a unit of consumer goods and four hours to produce a unit of capital goods. Which country has a comparative advantage in the production of consumer goods? Explain.

   The following table shows labor-market data for Country X.

Employed	180,000
Frictionally unemployed	10,000
Structurally unemployed	5,000
Cyclically unemployed	5,000
Not in the labor force	100,000

   (b) Calculate the unemployment rate in Country X. Show your work.

   (c) Calculate the labor force participation rate in Country X. Show your work.

   (d) Draw a correctly labeled graph of the production possibilities curve for Country X, with consumer goods on the horizontal axis and capital goods on the vertical axis. Indicate a point on your graph, labeled Z, that reflects the current level of unemployment.

STOP

END OF EXAM

2. Assume that an economy is in long-run equilibrium. Assume that consumers wish to hold less money because they use credit cards more frequently to purchase goods and services than cash.

   (a) Draw a correctly labeled graph of the money market and show the effect of the reduced holdings of money on the equilibrium nominal interest rate in the short run.

   (b) Based on the change in the interest rate in part (a), what will happen to each of the following in the short run?

      (i) Prices of previously issued bonds

      (ii) The price level and real income. Explain.

   (c) With a constant money supply, based on your answer to part b(ii), will the velocity of money increase, decrease, or remain the same, or is the change indeterminate?

   (d) If the central bank wishes to reverse the change in the interest rate identified in part (a), what open market operation would it use?

---

3. A country is at full employment and produces two types of goods: consumer goods and capital goods.

   (a) Draw a correctly labeled graph of the production possibilities curve, with consumer goods on the horizontal axis and capital goods on the vertical axis. Indicate a point on your graph, labeled X, that represents full employment and a possible combination in which both goods are being produced.

   (b) Assume there is an increase in the country's national savings. Draw a correctly labeled graph of the loanable funds market, showing the change in the real interest rate from the increase in savings.

   (c) On the same graph from part (a), show another point, labeled Z, that represents full employment and a new combination of consumer goods and capital goods consistent with the increase in the country's national savings.

   (d) Referring to your answer to part (c), will the long-run aggregate supply curve shift to the right, shift to the left, or remain the same? Explain.

STOP

END OF EXAM

2. The following is the balance sheet of First Superior Bank.

Assets		Liabilities and Equity	
Reserves	$200	Demand deposits	$2,000
Loans	$1,800	Equity (net worth)	$0

Assume that the required reserve ratio is 10 percent.

(a) What is the dollar value of new loans that First Superior Bank can make? Explain.

(b) Mr. Smith deposits $100 of cash in a demand deposit account in First Superior Bank. Calculate the maximum amount of new loans that First Superior Bank can now make.

(c) As a result of Mr. Smith's $100 cash deposit, calculate the maximum change over time in each of the following in the banking system.

(i) Loans

(ii) Demand deposits

(d) As a result of Mr. Smith's $100 cash deposit, calculate the maximum change over time in the money supply.

(e) Provide one reason why the actual change in money supply can be smaller than the maximum change you identified in part (d).

---

3. The following table shows the number of donuts or cupcakes that John and Erica can each produce in one day.

	Donuts	Cupcakes
John	200	100
Erica	150	50

(a) Who has the absolute advantage in producing donuts? Explain.

(b) Who has the comparative advantage in producing donuts? Explain.

(c) Assume that John and Erica decide to specialize according to their comparative advantages and that one cupcake is exchanged for four donuts.

(i) Indicate whether or not specialization and trade are beneficial to John.

(ii) Indicate whether or not specialization and trade are beneficial to Erica.

(d) Assume that Erica discovers a new cupcake production technique that will increase her daily production of cupcakes only. Using donuts on the horizontal axis, draw a correctly labeled production possibilities curve for Erica, before and after the technology change in cupcake production.

STOP

END OF EXAM

2. Country X and Country Y are trading partners, and both produce furnaces and solar panels. The countries can produce the following amounts using equal amounts of resources.

   Country X: 6 furnaces or 8 solar panels

   Country Y: 6 furnaces or 12 solar panels

   (a) Which country has an absolute advantage in producing solar panels?

   (b) Calculate the opportunity cost of a furnace in Country Y.

   (c) Which country has the comparative advantage in producing furnaces? Explain.

   (d) If the terms of trade were that 2 furnaces are exchanged for 1 solar panel, should Country X produce solar panels domestically or import solar panels from Country Y?

AP MACROECONOMICS • EXERCISE SHEET

1.3 Comparative Advantage and Gains from Trade

Name: _____ Class: _____ Date: _____ **Total: 10 marks**

KEY WORDS comparative advantage 比较优势 • absolute advantage 绝对优势 • specialization 专业化 • opportunity costs 机会成本 • resources 资源

Objective

Build the skills to answer exam questions on **comparative advantage and gains from trade**.

You must be able to:

- calculate **opportunity costs** 机会成本 of production from output data
- distinguish **absolute advantage** 绝对优势 from **comparative advantage** 比较优势
- determine which producer has the comparative advantage in each good
- explain how **specialization** 专业化 and trade create gains

1 Worked examples

Study these first. Each one shows the method for a question type used later.

■ Opportunity cost from output

If a country can make 10 wheat **or** 5 cloth with the same resources, then 1 wheat costs $\frac{5}{10} = 0.5$ cloth.

■ Absolute vs comparative advantage

Absolute advantage = producing **more** of a good. **Comparative** advantage = producing at a **lower opportunity cost**. Gains from trade come from **comparative** advantage.

■ Specialize and trade

Each producer specializes in the good for which its opportunity cost is **lowest**, then trades — and both can end up with more than in isolation.

2 Practice

2.1 State the difference between absolute and comparative advantage. [2]

2.2 Country X can make 20 wheat **or** 10 cloth. Find the opportunity cost of 1 wheat. [2]

2.3 State the basis on which a country should choose which good to specialize in. [1]

3 Exam-style questions

3.1 A producer has a comparative advantage when it has a lower [1]

- **A** total output
- **B** opportunity cost
- **C** selling price
- **D** population

3.2 Mutual gains from trade come from [1]

- **A** absolute advantage
- **B** specialization by comparative advantage
- **C** raising tariffs
- **D** self-sufficiency

3.3 In one hour, Ann makes 4 cakes **or** 8 breads; Ben makes 2 cakes **or** 2 breads.

(a) Find Ann's opportunity cost of 1 cake. [1]

(b) Find Ben's opportunity cost of 1 cake. [1]

(c) State who should specialize in cakes, and why. [1]

Solutions

2.1 absolute advantage is producing more of a good with the same resources; comparative advantage is producing it at a lower opportunity cost.

2.2 1 wheat costs $\frac{10}{20} = 0.5$ cloth.

2.3 the good in which it has the **lower opportunity cost** (comparative advantage).

3.1 B.

3.2 B.

3.3 (a) 1 cake costs 2 breads. (b) 1 cake costs 1 bread. (c) Ben — his opportunity cost of a cake (1 bread) is lower than Ann's (2 breads).

2. The European Union and the United States are trading partners.

   (a) If the current account balance is zero, will an increase in United States real income result in a current account surplus, deficit, or no change? Explain.

   (b) Draw a correctly labeled graph of the foreign exchange market for the euro. On your graph, show the effect of the increase in United States real income on the value of the euro relative to the United States dollar.

   (c) Now assume interest rates increase in the European Union.

      (i) What is the effect of the increase in interest rates in the European Union on the demand for the United States dollar? Explain.

      (ii) Based on your answer to part (c)(i), what is the effect on the value of the United States dollar relative to the euro?

---

3. Sweden and Norway use equal quantities of resources to produce food and capital goods. The table below shows the maximum possible production of food OR capital goods for each country.

Country	Food	Capital Goods
Sweden	50	100
Norway	30	120

   (a) Draw a correctly labeled graph of the production possibilities curve for Sweden. Place food on the horizontal axis and capital goods on the vertical axis. Plot the relevant numerical values on the graph.

   (b) On your graph in part (a), indicate the following.

      (i) A point that represents an efficient level of production, labeled E

      (ii) A point that represents an inefficient level of production, labeled I

      (iii) A point that represents an unattainable level of production, labeled U

   (c) Assume Sweden moves from producing 20 units of food and 60 units of capital goods to producing 30 units of food and 40 units of capital goods. What will happen to economic growth in Sweden in the future?

   (d) Which country has the comparative advantage in the production of capital goods? Explain.

   (e) Based on the table above, identify a specific number of units of capital goods that could be traded for 10 units of food and be mutually beneficial.

STOP

END OF EXAM

2. Assume the economy of Ucheland is currently at full employment. The government of Ucheland reduces the tax rate on household interest earnings.

   (a) What will happen to private savings in Ucheland?

   (b) Draw a correctly labeled graph of the loanable funds market, and show the effect of the change in private savings identified in part (a) on the equilibrium real interest rate.

   (c) Given the real interest rate change identified in part (b), answer the following questions.

      (i) What is the short-run effect on aggregate demand? Explain.

      (ii) What is the long-run effect on potential real gross domestic product in Ucheland? Explain.

---

3. Countries face trade-offs between producing consumer goods and producing capital goods.

   (a) Country X takes one hour to produce a unit of consumer goods and two hours to produce a unit of capital goods. Country Y takes two hours to produce a unit of consumer goods and four hours to produce a unit of capital goods. Which country has a comparative advantage in the production of consumer goods? Explain.

   The following table shows labor-market data for Country X.

Employed	180,000
Frictionally unemployed	10,000
Structurally unemployed	5,000
Cyclically unemployed	5,000
Not in the labor force	100,000

   (b) Calculate the unemployment rate in Country X. Show your work.

   (c) Calculate the labor force participation rate in Country X. Show your work.

   (d) Draw a correctly labeled graph of the production possibilities curve for Country X, with consumer goods on the horizontal axis and capital goods on the vertical axis. Indicate a point on your graph, labeled Z, that reflects the current level of unemployment.

STOP

END OF EXAM

2. The following is the balance sheet of First Superior Bank.

Assets		Liabilities and Equity	
Reserves	$200	Demand deposits	$2,000
Loans	$1,800	Equity (net worth)	$0

Assume that the required reserve ratio is 10 percent.

(a) What is the dollar value of new loans that First Superior Bank can make? Explain.

(b) Mr. Smith deposits $100 of cash in a demand deposit account in First Superior Bank. Calculate the maximum amount of new loans that First Superior Bank can now make.

(c) As a result of Mr. Smith's $100 cash deposit, calculate the maximum change over time in each of the following in the banking system.

(i) Loans

(ii) Demand deposits

(d) As a result of Mr. Smith's $100 cash deposit, calculate the maximum change over time in the money supply.

(e) Provide one reason why the actual change in money supply can be smaller than the maximum change you identified in part (d).

---

3. The following table shows the number of donuts or cupcakes that John and Erica can each produce in one day.

	Donuts	Cupcakes
John	200	100
Erica	150	50

(a) Who has the absolute advantage in producing donuts? Explain.

(b) Who has the comparative advantage in producing donuts? Explain.

(c) Assume that John and Erica decide to specialize according to their comparative advantages and that one cupcake is exchanged for four donuts.

(i) Indicate whether or not specialization and trade are beneficial to John.

(ii) Indicate whether or not specialization and trade are beneficial to Erica.

(d) Assume that Erica discovers a new cupcake production technique that will increase her daily production of cupcakes only. Using donuts on the horizontal axis, draw a correctly labeled production possibilities curve for Erica, before and after the technology change in cupcake production.

STOP

END OF EXAM

2. Country X and Country Y are trading partners, and both produce furnaces and solar panels. The countries can produce the following amounts using equal amounts of resources.

   Country X: 6 furnaces or 8 solar panels

   Country Y: 6 furnaces or 12 solar panels

   (a) Which country has an absolute advantage in producing solar panels?

   (b) Calculate the opportunity cost of a furnace in Country Y.

   (c) Which country has the comparative advantage in producing furnaces? Explain.

   (d) If the terms of trade were that 2 furnaces are exchanged for 1 solar panel, should Country X produce solar panels domestically or import solar panels from Country Y?

AP MACROECONOMICS • EXERCISE SHEET

1.4 Demand

Name: _____ Class: _____ Date: _____ **Total: 9 marks**

KEY WORDS demand 需求 • determinants of demand 需求的决定因素 • law of demand 需求定律 • inferior 低档品 • normal 正常品

Objective

Build the skills to answer exam questions on **demand**.

You must be able to:

- state the **law of demand** 需求定律 and explain the inverse price-quantity relationship
- distinguish a change in **quantity demanded** (movement) from a change in **demand** (shift)
- identify the **determinants of demand** 需求的决定因素
- classify goods as **normal** 正常品 or **inferior** 低档品, **substitutes** 替代品 or **complements** 互补品

1 Worked examples

Study these first. Each one shows the method for a question type used later.

■ The law of demand

As price **rises**, quantity demanded **falls** (an inverse relationship), so the demand curve slopes **downward**.

■ Movement vs shift

A change in the good's **own price** is a **movement along** the curve (a change in quantity demanded). A change in a **determinant** shifts the whole curve (a change in demand).

■ Determinants of demand

Income, tastes, prices of related goods (substitutes and complements), expectations, and the number of buyers. A rise in income raises demand for a **normal** good and lowers it for an **inferior** good.

2 Practice

2.1 State the law of demand. [1]

2.2 State whether a change in the good's own price causes a movement along or a shift of the demand curve. [1]

2.3 List three non-price determinants of demand. [2]

3 Exam-style questions

3.1 The demand curve slopes [1]

- **A** upward
- **B** downward
- **C** vertically
- **D** horizontally

3.2 A rise in income raises the demand for a [1]

- **A** normal good
- **B** inferior good
- **C** substitute only
- **D** complement only

3.3 The price of coffee rises sharply.

(a) State the effect on the quantity of coffee demanded. [1]

(b) State the effect on the demand for tea. [1]

(c) State what type of good tea is to coffee. [1]

Solutions

2.1 as the price of a good rises, the quantity demanded falls (other things equal).

2.2 a movement along the demand curve.

2.3 any three of: income, tastes, prices of related goods, expectations, number of buyers.

3.1 B.

3.2 A.

3.3 (a) it falls (a movement up the demand curve). (b) demand for tea rises. (c) a substitute.

1.5 Supply

Name: _____ Class: _____ Date: _____ **Total: 9 marks**

KEY WORDS supply 供给 • determinants of supply 供给的决定因素 • law of supply 供给定律 • subsidies 补贴

Objective

Build the skills to answer exam questions on **supply**.

You must be able to:

- state the **law of supply** 供给定律 and explain the direct price-quantity relationship
- distinguish a change in **quantity supplied** (movement) from a change in **supply** (shift)
- identify the **determinants of supply** 供给的决定因素
- explain how the upward-sloping supply curve reflects rising marginal costs

1 Worked examples

Study these first. Each one shows the method for a question type used later.

■ The law of supply

As price **rises**, quantity supplied **rises** (a direct relationship), so the supply curve slopes **upward** — higher prices cover the rising marginal cost of extra output.

■ Movement vs shift

A change in the good's **own price** is a **movement along** the curve. A change in a **determinant** shifts the whole curve.

■ Determinants of supply

Input prices, technology, expectations, taxes and subsidies, and the number of sellers.

2 Practice

2.1 State the law of supply. [1]

2.2 State whether a fall in input prices causes a movement along or a shift of the supply curve. [1]

2.3 List three determinants of supply. [2]

3 Exam-style questions

3.1 The supply curve slopes [1]

- **A** downward
- **B** upward
- **C** vertically
- **D** horizontally

3.2 A new technology that lowers production costs shifts the supply curve [1]

- **A** to the left
- **B** to the right
- **C** not at all
- **D** vertically

3.3 The government places a tax on producing a good.

(a) State the effect on supply. [1]

(b) State the direction the supply curve shifts. [1]

(c) Name one other determinant of supply. [1]

Solutions

2.1 as the price of a good rises, the quantity supplied rises (other things equal).

2.2 a shift of the supply curve (input price is a determinant).

2.3 any three of: input prices, technology, expectations, taxes/subsidies, number of sellers.

3.1 B.

3.2 B.

3.3 (a) supply falls. (b) to the left. (c) any one of: input prices, technology, expectations, number of sellers.

AP MACROECONOMICS • EXERCISE SHEET

1.6 Market Equilibrium, Disequilibrium, and Changes in Equilibrium

Name: _____ Class: _____ Date: _____ **Total: 9 marks**

KEY WORDS equilibrium 均衡 • surplus 过剩 • shortage 短缺 • price ceiling 价格上限 • price floor 价格下限

Objective

Build the skills to answer exam questions on **market equilibrium, disequilibrium, and changes in equilibrium**.

You must be able to:

- identify the **equilibrium** 均衡 price and quantity where supply meets demand
- explain how a **surplus** 过剩 or **shortage** 短缺 pushes price back to equilibrium
- predict the effect of a shift in supply or demand on price and quantity
- explain how a binding **price ceiling** 价格上限 or **price floor** 价格下限 works

1 Worked examples

Study these first. Each one shows the method for a question type used later.

■ Equilibrium

The price where quantity supplied equals quantity demanded; there is no pressure to change.

■ Surplus and shortage

Above equilibrium → a **surplus** (excess supply), so price **falls**. Below equilibrium → a **shortage** (excess demand), so price **rises**.

■ Shifts

- Demand **rises** → price up, quantity up.
- Supply **rises** → price down, quantity up.

A binding **ceiling** (below equilibrium) causes a lasting **shortage**; a binding **floor** (above) causes a lasting **surplus**.

2 Practice

2.1 Define market equilibrium. [1]

2.2 State what happens to price when there is a surplus. [1]

2.3 State the effect of an increase in demand on the equilibrium price and quantity. [2]

3 Exam-style questions

3.1 A price set above equilibrium creates a [1]

- **A** shortage
- **B** surplus
- **C** new equilibrium
- **D** trade deficit

3.2 A binding price ceiling causes a [1]

- **A** surplus
- **B** shortage
- **C** higher price
- **D** no effect

3.3 In the market for apples, a good harvest increases supply.

(a) State the effect on the equilibrium price. [1]

(b) State the effect on the equilibrium quantity. [1]

(c) If demand **also** rises at the same time, state which of price or quantity becomes

indeterminate. [1]

Solutions

2.1 the price and quantity at which quantity supplied equals quantity demanded.

2.2 it falls.

2.3 price falls and quantity rises.

3.1 B.

3.2 B.

3.3 (a) it falls. (b) it rises. (c) the price becomes indeterminate (quantity clearly rises).