

AP MICROECONOMICS

EXPANDED PRACTICE BANK

UNIT 01 - 03 | MIDTERM PREPARATION

180

ORIGINAL MULTIPLE CHOICE

18

FREE-RESPONSE TASKS

-
- 01 BASIC ECONOMIC CONCEPTS
 - 02 SUPPLY & DEMAND
 - 03 PRODUCTION COST & PERFECT COMPETITION

STUDENT EDITION / QUESTIONS ONLY
WORKBOOK, GRAPH WORKSPACE & ANSWER RECORD

Independently prepared study material. Not an official College Board or USIS publication.
Prepared for the exam scope supplied by the student. School-specific format is not verified.

STUDY ROADMAP

A large training bank, not a single timed mock exam.

THE SCOPE Unit 1 – scarcity, opportunity cost, PPC, trade, marginal choice; Unit 2 – demand, supply, elasticities, surplus, policy, trade; Unit 3 – production, costs, profits, perfect competition.

THE VOLUME 180 multiple-choice questions: 60 per unit. Plus 18 free-response tasks: 6 per unit (2 long + 4 short).

THE LEVELS Foundation [F], Application [A], Challenge [C]. Build accuracy first, then explain every diagram, equation and distractor.

RECOMMENDED USE Round 1: solve each unit without help. Round 2: redo every error while writing a one-sentence reason. Round 3: complete graph and FRQ tasks in timed conditions.

IMPORTANT All questions are original AP-aligned practice. The school-provided scope is known; the USIS midterm blueprint and prior exam style have not been verified.

COVERAGE & PRACTICE LOAD

Unit-by-unit question distribution and the intended cognitive demand

UNIT	MCQ	FRQ (Long/Short)	SUBJECT
1	60	2 / 4	Economic concepts & choice
2	60	2 / 4	Markets, elasticity & intervention
3	60	2 / 4	Costs & perfect competition

QUICK FORMULA GRID

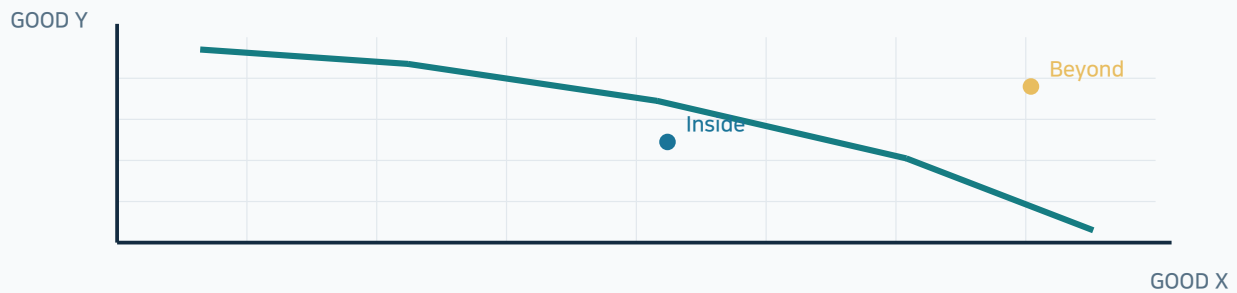
UNIT 1	Opportunity cost = value sacrificed / quantity gained; MU per dollar = MU / price
UNIT 2	Elasticity = $ \% \Delta Q / \% \Delta P $; CS/PS triangle = base $\times$ height / 2; imports = $Q_d - Q_s$
UNIT 3	TC = TFC + TVC; MC = $\Delta TC / \Delta Q$; AVC = TVC / Q; profit = TR - TC

Only the official College Board AP Microeconomics Course and Exam Description defines the AP course scope. This workbook does not reproduce official released or secure AP questions.

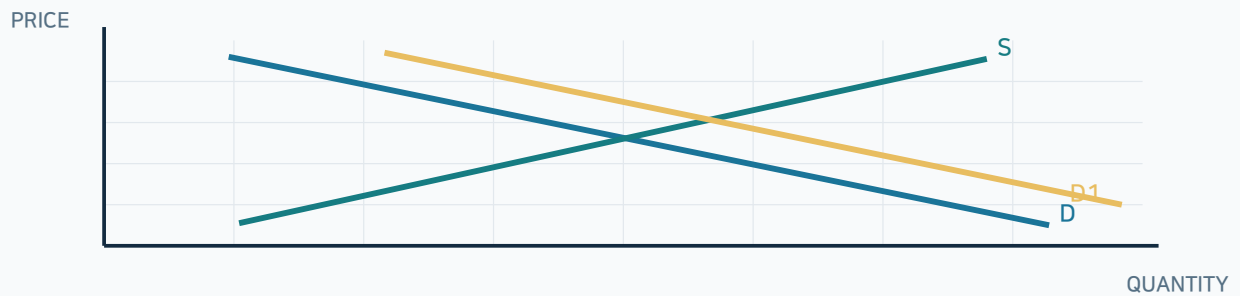
GRAPH REASONING ATLAS

Reference models for learning: identify axes, the initial equilibrium, and the direction of changes. These diagrams are conceptual and not a replacement for your own labeled FRQ drawings.

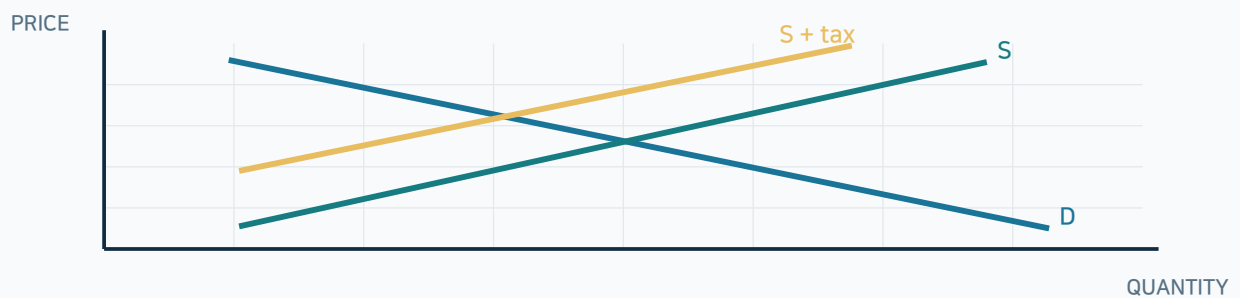
PPC: efficiency and opportunity cost



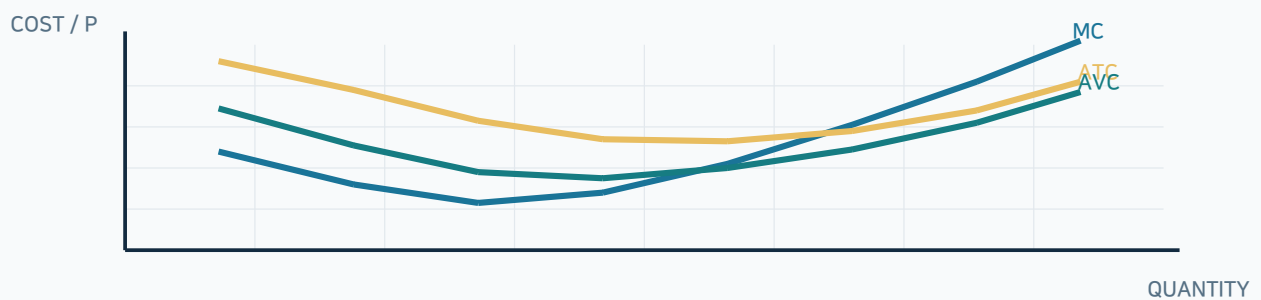
MARKET: demand increase



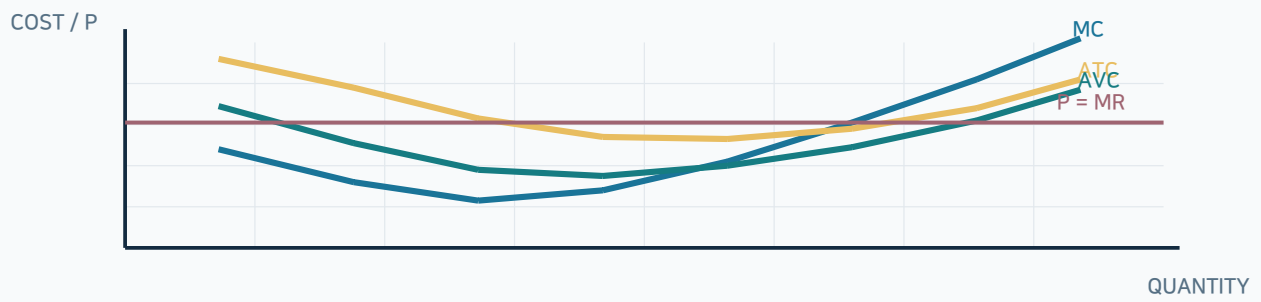
TAX: wedge and reduced quantity



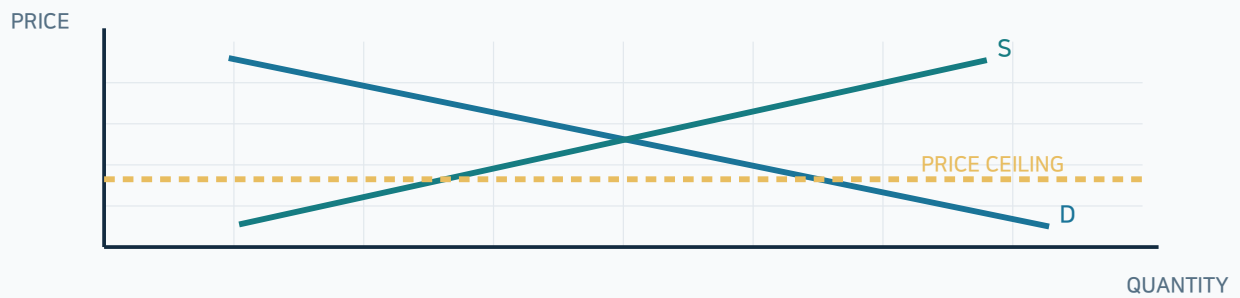
PRODUCTION: MC, AVC and ATC



FIRM: price-taking revenue line



PRICE CEILING: binding control

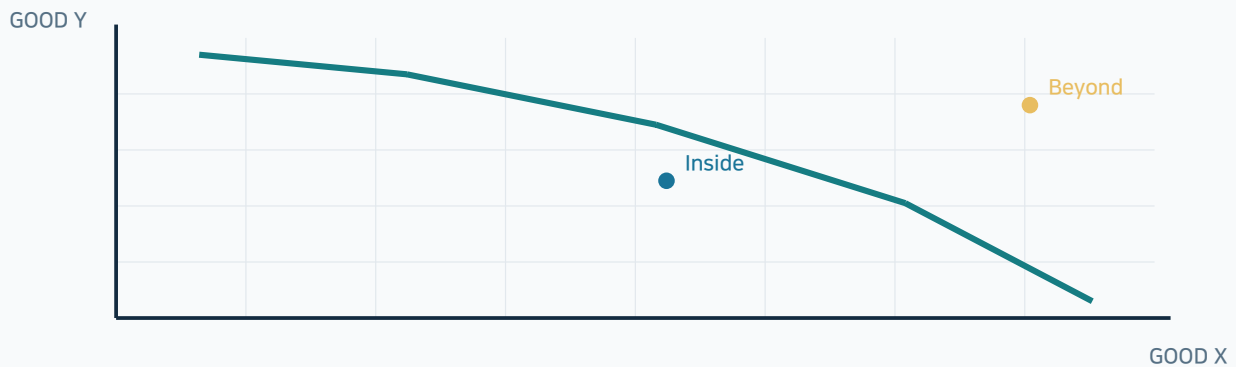


UNIT 01 / BASIC ECONOMIC CONCEPTS

Choice / Scarcity / PPC / Comparative advantage / Consumer optimization

60 MULTIPLE-CHOICE QUESTIONS

Choose the single best answer (A-E). This section intentionally includes challenging distractors.



Graph study reminder: label both axes, distinguish a movement along a curve from a shift, and explain the causal chain.

001 SCARCITY / FOUNDATION

Which situation is the clearest example of scarcity?

- A. A city abolishes the need to choose among goals.
- B. A school must choose how to use its limited computer lab hours.
- C. A store temporarily has excess stock at a high price.
- D. A consumer dislikes an available brand.
- E. A factory loses money in a recession.

002 SCARCITY / FOUNDATION

In economic analysis, physical capital most directly means

- A. a firm's total sales revenue.
- B. the natural skills of a worker.
- C. money deposited in a savings account.
- D. equipment used to produce goods and services.
- E. land beneath a factory.

003 SCARCITY / APPLICATION

The opportunity cost of studying for an hour is

- A. zero if the student spends no money.
- B. always the tuition already paid.
- C. the sum of the values of every possible alternative.

- D. the average grade obtained by classmates.
- E. the value of the best alternative use of that hour.

004 SCARCITY / CHALLENGE

A new discovery improves productivity while available workers remain unchanged. What can occur?

- A. Opportunity cost becomes irrelevant.
- B. The economy must move farther inside the same curve.
- C. The entire production possibilities curve shifts inward.
- D. The production possibilities curve shifts outward.
- E. Economic scarcity disappears.

005 SCARCITY / APPLICATION

A government must decide whether to build a hospital or a railway with a fixed budget. The fundamental problem is

- A. preventing any trade-off between public projects.
- B. finding a way to make every choice costless.
- C. eliminating all consumer preferences.
- D. allocating scarce resources among alternative uses.
- E. ensuring that every resource is free.

006 SCARCITY / FOUNDATION

Which is classified as a natural resource?

- A. A delivery van.
- B. A computer server.
- C. A trained technician.
- D. An underground iron-ore deposit.
- E. A construction crane.

007 ECONOMIC SYSTEMS / FOUNDATION

What coordinates decentralized decisions in a competitive market economy?

- A. An absence of property rights.
- B. Production quotas set entirely by one planner.
- C. A requirement that every household consume the same bundle.
- D. The elimination of all scarcity.
- E. Prices and voluntary exchanges among buyers and sellers.

008 ECONOMIC SYSTEMS / APPLICATION

Which feature best characterizes a mixed economic system?

- A. Every good is produced by the state.

- B. The government has no economic role of any kind.
- C. Private property is illegal.
- D. All prices are permanently fixed at zero.
- E. Markets operate alongside public provision, taxes, and regulation.

009 ECONOMIC SYSTEMS / CHALLENGE

A central planner cannot learn quickly which neighborhoods need winter coats most. This illustrates

- A. an automatic increase in the labor force.
- B. the absence of production costs.
- C. that the production possibilities curve must shift outward.
- D. the information problem in centralized resource allocation.
- E. that winter coats are not scarce.

010 ECONOMIC SYSTEMS / APPLICATION

A shortage raises the market price of batteries. Holding other factors constant, the price signal tends to

- A. eliminate every battery opportunity cost.
- B. reduce the incentive to produce batteries.
- C. shift demand left without changing quantity demanded.
- D. increase quantity supplied and reduce quantity demanded.
- E. decrease quantity supplied and increase quantity demanded.

011 PPC / FOUNDATION

A point strictly inside a PPC represents production that is

- A. currently unattainable.
- B. possible only after a technological advance.
- C. feasible but productively inefficient.
- D. productively efficient by definition.
- E. unaffected by unemployment.

012 PPC / APPLICATION

An economy moves from an interior point onto its unchanged PPC. The most plausible cause is

- A. reemployment of idle resources.
- B. a reduction in total resources.
- C. a decline in the working-age population.
- D. destruction of existing factories.
- E. a permanent improvement in available technology.

013 PPC / FOUNDATION

A movement along a given PPC primarily demonstrates

- A. the trade-off between outputs with existing resources.
- B. an increase in the number of workers.
- C. a technological improvement for both goods.
- D. a complete disappearance of opportunity cost.
- E. growth in potential production capacity.

014 PPC / CHALLENGE

A bowed-out PPC most commonly indicates that

- A. opportunity cost is constant for all production levels.
- B. production beyond the frontier is efficient.
- C. resource specialization has no effect.
- D. opportunity cost increases as more of one good is produced.
- E. both goods can always increase without sacrifice.

015 PPC / APPLICATION

After an earthquake destroys much of a region's productive machinery, its PPC will most likely

- A. shift outward.
- B. become a straight horizontal line.
- C. prove that opportunity cost is zero.
- D. remain fixed while all output rises.
- E. shift inward.

016 PPC / CHALLENGE

Which change is most likely to pivot a PPC outward primarily toward the food axis?

- A. A general decline in available workers.
- B. A recession that leaves resources idle.
- C. A permanent reduction in agricultural land.
- D. An irrigation innovation that improves crop yields but not manufacturing.
- E. A decrease in consumer preferences for food.

017 PPC / APPLICATION

Which statement about a bundle on the PPC is necessarily true?

- A. No change in its composition has an opportunity cost.
- B. It uses available resources productively efficiently.
- C. It maximizes total happiness for every household.
- D. It contains equal quantities of both goods.
- E. It lies beyond current technological limits.

018 PPC / CHALLENGE

An economy shifts resources from consumer goods to capital goods today. What is one potential future effect?

- A. No effect on future production possibilities.
- B. A necessary immediate increase in current consumer goods.
- C. Permanent elimination of scarcity.
- D. A larger future PPC due to greater capital accumulation.
- E. A guaranteed fall in technology.

019 PPC / CHALLENGE

A recession causes actual output to decline without destroying resources. How should this be represented?

- A. Actual production moves inward relative to an unchanged PPC.
- B. Technology immediately improves.
- C. Actual production moves beyond the frontier.
- D. The economy no longer faces trade-offs.
- E. The PPC must shift inward by exactly the output decline.

020 PPC / APPLICATION

An economy's PPC is a straight line. Which feature is implied?

- A. A prohibition on voluntary international trade.
- B. Exactly equal prices for the outputs.
- C. Constant opportunity cost between the two outputs.
- D. Diminishing marginal utility of consumers.
- E. Increasing opportunity costs for all quantities.

021 COMPARATIVE ADVANTAGE / FOUNDATION

Comparative advantage is determined by comparing

- A. worker population alone.
- B. tariff rates alone.
- C. total output alone.
- D. consumer income alone.
- E. opportunity costs of production.

022 COMPARATIVE ADVANTAGE / FOUNDATION

Absolute advantage refers to

- A. selling goods at a lower tariff rate.
- B. producing more output from a given quantity of inputs.
- C. having a lower opportunity cost for a good.
- D. maximizing consumers' marginal utility.
- E. buying a product at a lower price.

023 COMPARATIVE ADVANTAGE / APPLICATION

Country A can make 20 books or 10 lamps; country B can make 12 books or 12 lamps. Who has comparative advantage in books?

- A. Country A, because a book costs 2 lamps.
- B. Country B, because a book costs 1 lamp instead of 0.5 lamp.
- C. Country B, because it produces more books.
- D. Neither country, because both can make lamps.
- E. Country A, because a book costs 0.5 lamp instead of 1 lamp.

024 COMPARATIVE ADVANTAGE / CHALLENGE

One person can make 15 mugs or 45 plates per day; another can make 12 mugs or 24 plates. The opportunity cost of one mug for the second person is

- A. 0.5 plate.
- B. 24 plates.
- C. 2 plates.
- D. 12 plates.
- E. 3 plates.

025 COMPARATIVE ADVANTAGE / APPLICATION

Country R has opportunity cost of 2 apples per pear, while S has opportunity cost of 5 apples per pear. Which price of a pear could benefit both when trading?

- A. Exactly 5 apples only.
- B. 6 apples.
- C. 1 apple.
- D. 3 apples.
- E. Exactly 2 apples only.

026 COMPARATIVE ADVANTAGE / CHALLENGE

One country has absolute advantage in both goods. Which claim about trade is most accurate?

- A. The more productive country must have comparative advantage in both goods.
- B. Mutual gains remain possible if comparative advantages differ.
- C. Both countries necessarily have identical opportunity costs.
- D. The less productive country cannot gain from any trade.
- E. Specialization requires both countries to make the same good.

027 COMPARATIVE ADVANTAGE / APPLICATION

Country X can produce 4 units of wheat or 2 units of cheese per hour. Country Y can produce 3 units of wheat or 3 units of cheese. Which specialization is consistent with comparative advantage?

- A. X in wheat and Y in cheese.
- B. X in cheese and Y in wheat.
- C. Both in wheat.
- D. Both in cheese.
- E. Neither should specialize if trade is allowed.

028 COMPARATIVE ADVANTAGE / CHALLENGE

If two producers have identical opportunity costs for two goods, specialization based only on comparative advantage will

- A. not generate additional gains from comparative-advantage differences.
- B. require one producer to have comparative advantage in both goods.
- C. eliminate production trade-offs.
- D. force each producer to consume only one good.
- E. always double the consumption possibilities of both.

029 COMPARATIVE ADVANTAGE / CHALLENGE

How can consumers obtain a bundle outside their country's PPC without shifting the PPC?

- A. Produce according to comparative advantage and trade.
- B. Produce beyond the current frontier domestically.
- C. Shift resources to an inefficient point inside the curve.
- D. Prohibit exchanges with other countries.
- E. Reduce the number of productive resources.

030 COMPARATIVE ADVANTAGE / APPLICATION

Which terms of trade strictly benefit both sides under the usual two-good model?

- A. Only a rate identical to the lower opportunity cost.
- B. A rate above both opportunity costs.
- C. Only a rate identical to the higher opportunity cost.
- D. A trading rate between their respective opportunity costs.
- E. A rate below both opportunity costs.

031 COST-BENEFIT / FOUNDATION

Which item is a sunk cost for a decision being made today?

- A. A nonrefundable registration fee paid last month.
- B. An additional fee required only if the activity continues.
- C. The resale value of equipment that can still be sold.
- D. The value of work hours that must be forgone tomorrow.
- E. The benefit of a future alternative project.

032 COST-BENEFIT / APPLICATION

An entrepreneur leaves a job with a \$54,000 annual salary to start a business. The forgone earnings are

- A. a sunk cost in all circumstances.
- B. a cash expense to suppliers.
- C. a transfer payment from government.
- D. the firm's accounting revenue.
- E. an implicit cost of the business.

033 COST-BENEFIT / APPLICATION

An activity has expected benefits of \$630 and total relevant economic costs of \$580. Its net benefit is

- A. +\$1,210.
- B. +\$630.
- C. +\$50.
- D. -\$50.
- E. +\$580.

034 COST-BENEFIT / CHALLENGE

A firm paid \$12,000 for an unrecoverable feasibility study. Completing a new project will cost \$7,000 and yield \$10,000 in additional benefits. What is rational?

- A. Complete only if the sunk cost can be recovered.
- B. Cancel because the study is an opportunity cost tomorrow.
- C. Complete the project because additional benefits exceed additional costs.
- D. The decision is impossible without the original study price.
- E. Cancel because total historical spending exceeds \$10,000.

035 COST-BENEFIT / APPLICATION

A student can attend a free workshop or earn \$75 during the same hours. The opportunity cost of attending the workshop includes

- A. a fee already paid for last year's workshop.
- B. the \$75 earnings given up.
- C. only the workshop's advertisement cost.
- D. zero because the workshop has no admission fee.
- E. every possible job wage in the city added together.

036 COST-BENEFIT / CHALLENGE

A repair requires \$80 in parts and causes \$60 in foregone earnings. The economic cost of performing the repair is

- A. \$20.
- B. \$140.

- C. \$80.
- D. \$4,800.
- E. \$60.

037 MARGINAL CHOICE / FOUNDATION

Diminishing marginal utility means that

- A. the market price necessarily rises every period.
- B. additional units add progressively less to total utility.
- C. all goods eventually become free.
- D. total utility must decrease with every added unit.
- E. the consumer can never reach a utility maximum.

038 MARGINAL CHOICE / APPLICATION

A consumer values the next unit at \$24 but must incur an additional cost of \$18. What should the consumer do at the margin?

- A. Ignore the opportunity cost.
- B. Avoid the unit because its total price is positive.
- C. Purchase that unit because marginal benefit exceeds marginal cost.
- D. Avoid all previous units as well.
- E. Purchase only if sunk costs have risen.

039 MARGINAL CHOICE / APPLICATION

The marginal utility of a sandwich is 24 and its price is \$6. Juice gives marginal utility 15 at a price of \$3. Which yields higher utility per dollar?

- A. Juice, at 5 utils per dollar.
- B. They are equal at 4 utils per dollar.
- C. Juice, at 3 utils per dollar.
- D. Sandwich, at 24 utils per dollar.
- E. Sandwich, at 6 utils per dollar.

040 MARGINAL CHOICE / CHALLENGE

For an interior utility-maximizing bundle of goods X and Y, which condition should hold?

- A. $MU_x = MU_y$ regardless of prices.
- B. Total utility from X equals total utility from Y.
- C. $MU_x \times P_x = MU_y \times P_y$.
- D. $P_x = P_y$ for every consumer.
- E. $MU_x/P_x = MU_y/P_y$.

041 MARGINAL CHOICE / APPLICATION

Suppose MU_x/P_x is greater than MU_y/P_y for a consumer purchasing both goods. What adjustment tends to increase utility?

- A. Increase the price paid for X voluntarily.
- B. Shift a small amount of spending toward X and away from Y.
- C. Ignore marginal utilities and compare total utilities only.
- D. Shift spending toward Y and away from X.
- E. Buy the same quantity of X and Y immediately.

042 MARGINAL CHOICE / CHALLENGE

A concert ticket cannot be refunded. A newly available event offers higher expected enjoyment than the concert. A rational choice should

- A. choose the concert if any opportunity cost exists.
- B. attend the concert solely because money was spent.
- C. exclude the nonrefundable ticket price from the forward-looking comparison.
- D. count the ticket price as a benefit of the concert.
- E. ignore all future enjoyment.

043 MARGINAL CHOICE / CHALLENGE

A student's fifth hour of practice has $MB = \$9$ and $MC = \$14$; the preceding four hours each had MB greater than MC. The optimal choice is to

- A. stop after four hours.
- B. ignore the fifth hour's additional cost.
- C. do no practice whatsoever.
- D. continue until MC becomes even greater.
- E. complete at least five hours.

044 MARGINAL CHOICE / APPLICATION

When the price of good X decreases while its marginal utility schedule is unchanged, MU_x/P_x initially

- A. becomes zero at every quantity.
- B. rises, making X more attractive relative to other goods.
- C. becomes equal to total utility.
- D. falls, making X less attractive.
- E. must equal MU_y regardless of Y's price.

045 MARGINAL CHOICE / FOUNDATION

Marginal analysis compares

- A. only average rather than additional values.
- B. total revenue with total fixed costs only.
- C. the nominal prices of all goods in the economy.

- D. historical expenses with sunk benefits.
- E. the additional benefit and additional cost of a decision.

046 MARGINAL CHOICE / CHALLENGE

A student earns a fixed scholarship regardless of hours studied. Which statement is correct about the optimal study time?

- A. The scholarship makes opportunity costs disappear.
- B. The optimal hour depends only on total scholarship income.
- C. The scholarship becomes a marginal cost of every study hour.
- D. The fixed scholarship does not directly change marginal study costs or benefits.
- E. The scholarship must increase optimal study time by one hour.

047 DEMAND / FOUNDATION

A change in the good's own price, holding all other factors constant, causes

- A. the entire supply curve to shift left.
- B. a change in the number of buyers.
- C. movement along an existing demand curve.
- D. a change in consumer preferences by definition.
- E. the entire demand curve to shift right.

048 DEMAND / APPLICATION

Suppose bus rides are inferior goods. When consumer income rises, demand for bus rides tends to

- A. move upward along an unchanged demand curve.
- B. become perfectly inelastic.
- C. increase at every given fare.
- D. decrease at every given fare.
- E. cause the supply curve to shift right.

049 DEMAND / APPLICATION

If tea and coffee are substitutes, an increase in the price of tea will most likely

- A. decrease coffee's quantity supplied along its curve.
- B. reduce the supply of coffee.
- C. increase the supply of tea.
- D. increase demand for coffee.
- E. decrease demand for coffee.

050 DEMAND / CHALLENGE

If printers and ink cartridges are complements, a fall in printer prices tends to

- A. shift the demand for ink cartridges left.

- B. make the cross-price elasticity of the two goods positive.
- C. cause an upward movement along ink cartridge demand.
- D. shift ink cartridge supply left.
- E. shift the demand for ink cartridges right.

051 DEMAND / APPLICATION

Consumers expect the price of laptops to rise sharply next month. Holding other factors constant, current demand for laptops is likely to

- A. become vertical.
- B. decrease.
- C. increase.
- D. remain unchanged in every circumstance.
- E. cause supply to decrease automatically.

052 DEMAND / FOUNDATION

A downward-sloping demand curve generally captures the relationship between

- A. buyers' income and firms' fixed cost.
- B. price and demand-curve shifts due to tastes.
- C. the wage rate and market supply.
- D. a good's price and quantity demanded, other things equal.
- E. total production capacity and technology.

053 SUPPLY / FOUNDATION

An increase in the market price of oranges, other things equal, causes

- A. an immediate rightward shift of the supply curve.
- B. an immediate leftward shift of the demand curve.
- C. a decline in the number of orange growers.
- D. a decrease in orange producers' costs.
- E. an increase in quantity supplied along the supply curve.

054 SUPPLY / APPLICATION

A technological improvement reduces the cost of producing batteries. What happens to supply?

- A. Supply shifts left.
- B. Supply shifts right.
- C. Demand necessarily shifts left.
- D. The market price must rise.
- E. Quantity supplied falls along the old supply curve.

055 SUPPLY / APPLICATION

A severe drought raises the cost of growing wheat. Which change is most likely?

- A. The demand for wheat increases automatically.
- B. The supply of wheat decreases.
- C. Quantity demanded falls with no price change.
- D. The wheat PPC necessarily shifts outward.
- E. The supply of wheat increases.

056 SUPPLY / CHALLENGE

Farmers can grow either corn or soybeans on the same land. A sustained increase in the price of soybeans will tend to

- A. eliminate opportunity costs in farming.
- B. increase the supply of corn.
- C. reduce the supply of corn.
- D. increase the quantity supplied of corn at every price automatically.
- E. reduce the demand for soybeans.

057 SUPPLY / APPLICATION

Government grants a per-unit subsidy to producers of electric bicycles. Which direct effect is most likely?

- A. The demand curve must shift left.
- B. A higher marginal production cost for all firms.
- C. The supply curve shifts left.
- D. The supply curve shifts right.
- E. A price increase caused only by a leftward supply shift.

058 SUPPLY / APPLICATION

Firms expect their product's market price to be much higher next month and can store inventory. Current supply may

- A. produce a zero opportunity cost of inventory.
- B. cause current demand to decline by definition.
- C. increase necessarily because all inventory is released now.
- D. become independent of storage decisions.
- E. decrease as some output is withheld for future sale.

059 MARKET SHIFTS / FOUNDATION

Both market demand and market supply increase. Which equilibrium outcome is certain?

- A. Equilibrium quantity increases.
- B. Equilibrium price decreases.
- C. Equilibrium price increases.
- D. Equilibrium quantity decreases.

E. Equilibrium price remains unchanged.

060 MARKET SHIFTS / APPLICATION

Market demand increases while market supply decreases. Which outcome is certain?

- A. Equilibrium quantity falls.
 - B. Equilibrium price falls.
 - C. Both equilibrium price and quantity are unchanged.
 - D. Equilibrium quantity rises.
 - E. Equilibrium price rises.
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UNIT 01 / FREE RESPONSE

The following tasks are original AP-format practice. Provide equations, labeled diagrams and causal explanations.

FRQ 01 / Specialization and the Gains from Trade

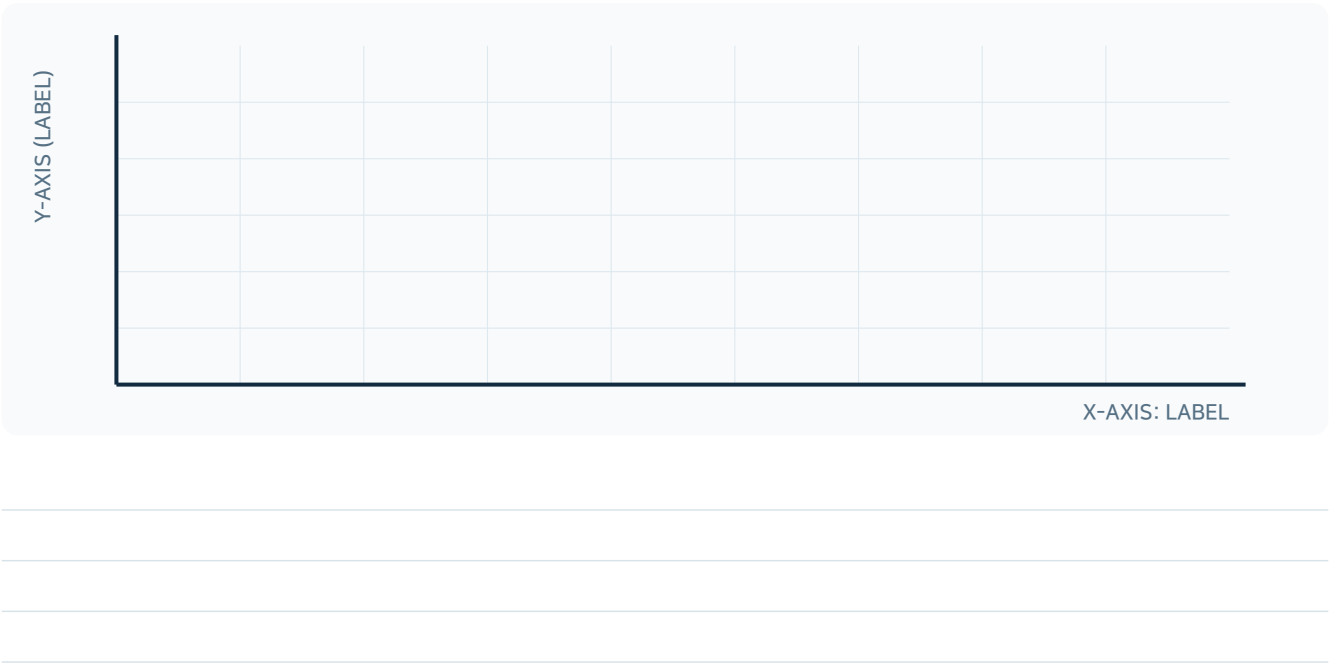
LONG FORM 10 POINTS UNIT 1 1.3-1.4

Countries A and B each have the same total labor available. Country A can produce either 60 units of rice or 30 robots. Country B can produce either 30 units of rice or 30 robots. Assume constant opportunity costs within each country.

Country	Maximum rice	Maximum robots
A	60	30
B	30	30

- (a) Calculate the opportunity cost of producing one robot in each country. Show work. [2 pts]
- (b) Identify the comparative advantage in rice and in robots, and justify each. [2 pts]
- (c) State a range of rice-per-robot trading prices that benefits BOTH countries strictly. [2 pts]
- (d) Explain why exchanging 1 robot for 1.5 rice benefits each country compared with domestic production. [2 pts]
- (e) Draw Country A’s PPC, label both axes and the intercepts, and show a possible consumption point outside the PPC after trade. [2 pts]

GRAPHING SPACE / Draw and clearly label all relevant curves and points.



FRQ 02 / Rising Opportunity Cost on a PPC

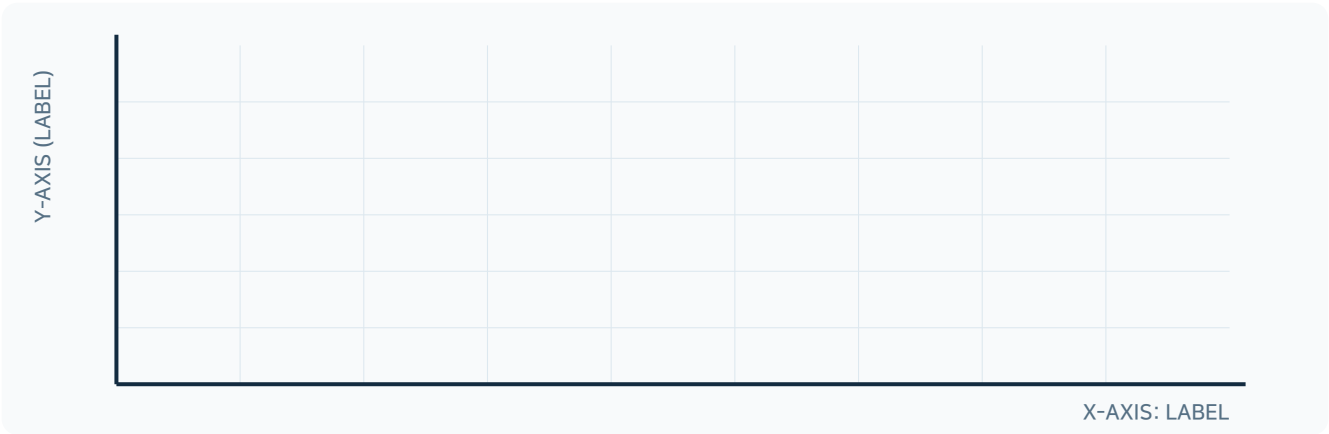
LONG FORM 10 POINTS UNIT 1 1.3

An economy can produce combinations of tablets (horizontal axis) and wheat (vertical axis), shown in the production table. Assume each segment between adjacent listed combinations is attainable.

Tablets	0	10	20	30	40
Wheat	100	96	84	60	0

- (a) Draw and correctly label the PPC through the data points. [2 pts]
- (b) Calculate the opportunity cost of expanding tablet output from 20 to 30. [2 pts]
- (c) Explain why the opportunity cost of each successive 10 tablets increases. [2 pts]
- (d) Classify the bundle (10 tablets, 80 wheat) as efficient, inefficient, or unattainable. Justify. [2 pts]
- (e) Show and explain the effect of a technological improvement affecting wheat only. [2 pts]

GRAPHING SPACE / Draw and clearly label all relevant curves and points.



SHORT FORM 5 POINTS UNIT 1 1.5

- Identify the sunk cost. [1 pt]
- Calculate the event's relevant economic cost from today. [2 pts]
- Calculate net benefit and recommend whether to proceed. [2 pts]

FRQ 04 / Budget-Constrained Consumer Choice

SHORT FORM 5 POINTS UNIT 1 1.6

A student has a \$12 budget. Good X costs \$3 per unit and Good Y costs \$2 per unit. Marginal utilities are X: [24,18,12,6]; Y: [16,12,8,4,2,1] for successive units. Each unit is indivisible and any unused budget has no utility.

- Calculate the total utility from 2 units of X and 3 units of Y. [2 pts]
- Verify that the bundle is affordable and exhausts the budget. [1 pt]
- Explain why the consumer should compare MU per dollar rather than raw MU when adjusting spending, while noting discrete units. [2 pts]

FRQ 05 / The Cost of an Extra Unit

SHORT FORM 5 POINTS UNIT 1 1.3

A firm can produce 20 graphic designs or 5 animated videos per week at full capacity, with constant opportunity costs. This week it chooses 12 designs and 2 videos.

- Calculate the opportunity cost of one video in terms of graphic designs. [2 pts]
- Determine whether the chosen bundle is on, inside, or outside the PPC. [2 pts]
- Explain the trade-off of making one additional video from this point. [1 pt]

FRQ 06 / Marginal Benefit Schedule

SHORT FORM 5 POINTS UNIT 1 1.6

A student's extra study hours yield marginal benefits of 23, 19, 15, 10, and 5 points from the first through fifth hour. The opportunity cost of each hour is 12 points.

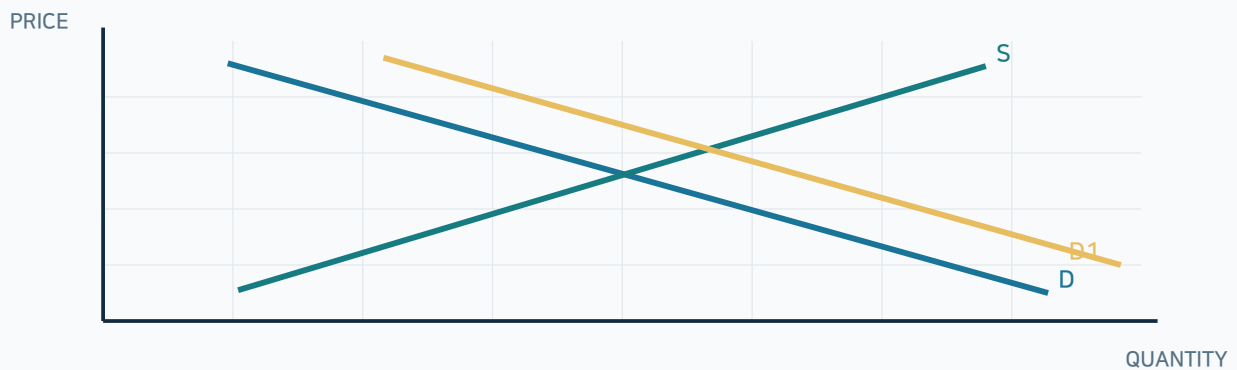
- Identify the number of hours that maximizes net benefit. [2 pts]
- Calculate total benefit from the optimal hours. [1 pt]
- Calculate total opportunity cost for the optimal hours. [1 pt]
- Explain why studying a fourth hour lowers net benefit. [1 pt]

UNIT 02 / SUPPLY & DEMAND

Shifts / Elasticities / Surplus / Price controls / Taxes / Tariffs

60 MULTIPLE-CHOICE QUESTIONS

Choose the single best answer (A-E). This section intentionally includes challenging distractors.



Graph study reminder: label both axes, distinguish a movement along a curve from a shift, and explain the causal chain.

061 MARKET SHIFTS / APPLICATION

Both market demand and supply decrease. Which equilibrium outcome is certain?

- A. Equilibrium price rises.
- B. Equilibrium price falls.
- C. Equilibrium price remains exactly constant.
- D. Equilibrium quantity falls.
- E. Equilibrium quantity rises.

062 MARKET SHIFTS / CHALLENGE

Demand decreases while supply increases in the same market. Which equilibrium outcome is certain?

- A. Equilibrium price must rise.
- B. Equilibrium price falls.
- C. Quantity is unchanged for every possible shift size.
- D. Equilibrium quantity must fall.
- E. Equilibrium quantity must rise.

063 MARKET SHIFTS / APPLICATION

A binding shortage at the current market price tends to put

- A. no pressure on price, even with adjustment allowed.
- B. downward pressure on the market price.
- C. upward pressure on the market price.

- D. downward pressure on demand by definition.
- E. an automatic leftward shift of supply.

064 MARKET SHIFTS / APPLICATION

A surplus of unsold goods at the current price tends to generate

- A. upward pressure on price.
- B. downward pressure on price.
- C. a shift of supply left without other causes.
- D. a guaranteed increase in demand.
- E. zero incentives for sellers to adjust prices.

065 ELASTICITY / FOUNDATION

The price elasticity of demand equals the absolute value of

- A. percentage change in price divided by percentage change in income.
- B. change in total revenue divided by quantity demanded.
- C. percentage change in quantity demanded divided by percentage change in price.
- D. change in quantity divided by change in price without percentages.
- E. slope of supply divided by slope of demand.

066 ELASTICITY / APPLICATION

When demand is price elastic, a price increase will generally

- A. reduce total revenue.
- B. cause quantity demanded to increase.
- C. leave total revenue unchanged.
- D. increase total revenue.
- E. shift demand to the right.

067 ELASTICITY / APPLICATION

When demand is price inelastic, a price decrease generally

- A. increases total revenue.
- B. reduces total revenue.
- C. increases the marginal utility of the good by definition.
- D. makes supply perfectly elastic.
- E. leaves total revenue unchanged.

068 ELASTICITY / CHALLENGE

Which demand curve is perfectly inelastic?

- A. Any straight line with a negative slope.
- B. A horizontal line only when demand is unit elastic.

- C. A horizontal line.
- D. An upward-sloping line.
- E. A vertical line.

069 ELASTICITY / FOUNDATION

A perfectly elastic demand curve is represented by

- A. a vertical supply curve.
- B. an outward-bowed PPC.
- C. an upward-sloping curve.
- D. a horizontal line at the prevailing price.
- E. a vertical line at a fixed quantity.

070 ELASTICITY / CHALLENGE

A product has more close substitutes than before. Its demand will generally become

- A. perfectly inelastic.
- B. more price elastic.
- C. unchanged under every circumstance.
- D. upward sloping.
- E. less price elastic.

071 ELASTICITY / APPLICATION

Supply is generally more price elastic in the long run than in the short run because

- A. firms can adjust more inputs and productive capacity over time.
- B. short-run supply must be perfectly horizontal.
- C. all fixed costs become sunk utility.
- D. production technology is never relevant to supply.
- E. consumers permanently stop comparing prices.

072 ELASTICITY / CHALLENGE

A good with positive income elasticity of demand is classified as

- A. necessarily a Giffen good.
- B. a normal good.
- C. an inferior good.
- D. a perfectly inelastic good.
- E. a complementary good to income.

073 ELASTICITY / CHALLENGE

The cross-price elasticity of demand for peanut butter with respect to the price of jelly is negative. The goods are likely

- A. both perfectly elastic.
- B. both inferior goods.
- C. complements.
- D. substitutes.
- E. unrelated in consumption.

074 ELASTICITY / APPLICATION

A price elasticity of demand of 0.4 in absolute value means that demand is

- A. unit elastic.
- B. perfectly elastic.
- C. inelastic over the relevant range.
- D. elastic over the relevant range.
- E. perfectly inelastic.

075 MARKET SURPLUS / FOUNDATION

Consumer surplus is the difference between

- A. willingness to pay and the actual amount paid.
- B. fixed cost and variable cost.
- C. price received and minimum willingness to accept.
- D. tax revenue and total revenue.
- E. marginal cost and total cost.

076 MARKET SURPLUS / APPLICATION

Producer surplus is best described as

- A. the difference between the price received and the minimum acceptable price.
- B. the difference between maximum willingness to pay and price.
- C. the same as economic profit regardless of fixed costs.
- D. the same as total revenue for every firm.
- E. the amount of tax revenue collected.

077 MARKET SURPLUS / APPLICATION

In an unregulated competitive market without externalities, the equilibrium quantity tends to

- A. maximize producer surplus alone.
- B. produce a shortage by definition.
- C. maximize total surplus.
- D. create deadweight loss necessarily.
- E. maximize consumer surplus alone.

078 MARKET SURPLUS / CHALLENGE

If willingness to pay is \$90 for a unit bought at a market price of \$55, consumer surplus from that unit is

- A. -\$35.
- B. \$145.
- C. \$90.
- D. \$55.
- E. \$35.

079 MARKET SURPLUS / APPLICATION

With a linear demand curve and price below the demand intercept, consumer surplus at a competitive equilibrium is represented by

- A. the portion of supply above demand.
- B. the area below demand and above market price up to the traded quantity.
- C. the area below the horizontal axis.
- D. the area above supply and below market price only.
- E. the entire rectangle of price times quantity.

080 PRICE CONTROLS / FOUNDATION

A binding price ceiling below the competitive equilibrium causes

- A. a rightward shift in supply.
- B. a guaranteed fall in quantity demanded.
- C. an increase in quantity supplied.
- D. a surplus.
- E. a shortage.

081 PRICE CONTROLS / FOUNDATION

A binding price floor above the competitive equilibrium causes

- A. a shortage.
- B. a surplus.
- C. an increase in quantity demanded.
- D. a decrease in quantity supplied.
- E. an automatic leftward shift of demand.

082 PRICE CONTROLS / CHALLENGE

A nonbinding maximum legal price is set above the current equilibrium price. What happens initially?

- A. The demand curve necessarily shifts right.
- B. Quantity supplied becomes zero.
- C. A surplus is necessarily created.
- D. A shortage is necessarily created.
- E. The equilibrium quantity and price remain unchanged.

083 PRICE CONTROLS / APPLICATION

A binding minimum wage in a standard competitive labor-market model creates

- A. a guaranteed increase in all employment.
- B. a zero opportunity cost of work.
- C. a rightward shift in labor demand.
- D. an excess demand for labor.
- E. an excess supply of labor.

084 TAX AND SUBSIDY / APPLICATION

A per-unit tax on sellers in a competitive market will generally

- A. create no wedge between buyer and seller prices.
- B. leave the consumer price fixed by definition.
- C. raise the price buyers pay and lower the net price sellers receive.
- D. lower the price buyers pay and raise the net price sellers receive.
- E. increase traded quantity when other factors are unchanged.

085 TAX AND SUBSIDY / CHALLENGE

Which market side bears more of a per-unit tax burden, other things equal?

- A. Always consumers, regardless of elasticities.
- B. Always the side legally required to remit the tax.
- C. Always producers, regardless of elasticities.
- D. The relatively less price-elastic side.
- E. The relatively more price-elastic side.

086 TAX AND SUBSIDY / APPLICATION

A subsidy paid per unit to producers usually causes equilibrium traded quantity to

- A. become negative.
- B. fall to zero.
- C. decrease.
- D. increase.
- E. remain unchanged regardless of elasticities.

087 TAX AND SUBSIDY / CHALLENGE

In a competitive market without externalities, a per-unit tax creates deadweight loss primarily because

- A. consumer surplus becomes negative for every remaining buyer.
- B. all tax revenue is necessarily wasted.
- C. supply becomes perfectly inelastic automatically.
- D. some mutually beneficial transactions no longer occur.

E. it creates additional scarce resources.

088 INTERNATIONAL TRADE / FOUNDATION

If a small country faces a world price below its domestic autarky price, free trade will make it

- A. an exporter of the good.
- B. an importer of the good.
- C. unable to trade because world price is lower.
- D. a producer with no domestic sales.
- E. a country with no consumer surplus.

089 INTERNATIONAL TRADE / APPLICATION

When a country begins importing a good at a lower world price, domestic consumers generally

- A. necessarily become exporters.
- B. face a higher domestic market price.
- C. lose consumer surplus.
- D. purchase fewer units.
- E. gain consumer surplus.

090 INTERNATIONAL TRADE / APPLICATION

A tariff on an imported good in a small-country model tends to

- A. increase imports and lower the domestic price.
- B. reduce imports and raise the domestic price.
- C. leave producer surplus unchanged necessarily.
- D. shift the domestic demand curve to the right.
- E. lower the price producers receive.

091 INTERNATIONAL TRADE / CHALLENGE

Following a tariff in a small importing country, domestic producer surplus generally

- A. increases.
- B. becomes identical to tax revenue.
- C. becomes negative even when firms sell at a profit.
- D. remains unchanged by definition.
- E. decreases.

092 INTERNATIONAL TRADE / CHALLENGE

Relative to free trade, an import tariff in a standard small-country model typically

- A. raises total surplus by the full amount of tariff revenue.
- B. lowers total surplus due to deadweight loss.
- C. raises consumer surplus while reducing producer surplus.

- D. eliminates all domestic production.
- E. leaves imports unchanged regardless of tariff size.

093 INTERNATIONAL TRADE / CHALLENGE**A binding import quota usually**

- A. restricts imports and raises the domestic price relative to free trade.
- B. shifts the global production possibilities curve outward.
- C. guarantees gains for all consumers.
- D. eliminates opportunity costs of imports.
- E. increases imports and lowers the domestic price.

094 PRODUCTION FUNCTION / FOUNDATION**The marginal product of labor is**

- A. total revenue minus total cost.
- B. the total wage bill divided by output.
- C. the price of the firm's final output.
- D. total output divided by all workers.
- E. the addition to total output from employing one more worker, other inputs fixed.

095 PRODUCTION FUNCTION / APPLICATION**The marginal product of the fifth worker is 12 units. Which statement is implied?**

- A. Total product is necessarily 60 units.
- B. Each of the five workers produces exactly 12 units on average.
- C. Average product must be increasing.
- D. Total output increases by 12 units when the fifth worker is added.
- E. Fixed cost increases by 12 units.

096 PRODUCTION FUNCTION / APPLICATION**Diminishing marginal returns occur when**

- A. the output price declines as employment increases.
- B. additional variable inputs eventually add less output while at least one input is fixed.
- C. total output must immediately become negative.
- D. marginal cost necessarily falls forever.
- E. firms buy larger quantities of all inputs proportionately.

097 PRODUCTION FUNCTION / CHALLENGE**If marginal product is greater than average product of labor, adding that worker will**

- A. raise average product.
- B. make labor productivity impossible to measure.

- C. leave average product unchanged necessarily.
- D. lower average product.
- E. cause total product to decline.

098 PRODUCTION FUNCTION / CHALLENGE

If marginal product equals average product of labor, average product is typically

- A. equal to the product price.
- B. necessarily negative.
- C. at its minimum when marginal product is rising.
- D. at its maximum when marginal product is moving downward through it.
- E. identical to marginal cost.

099 PRODUCTION FUNCTION / APPLICATION

Holding the wage rate constant, a falling marginal product of labor is associated with

- A. rising marginal cost of output.
- B. a necessary fall in average fixed cost due to falling output.
- C. a higher marginal product of all inputs.
- D. falling marginal cost of output.
- E. zero variable costs.

100 COSTS / FOUNDATION

Which cost does not vary with short-run output?

- A. Marginal cost as a general rule.
- B. Total variable cost.
- C. Total fixed cost.
- D. Total labor cost when labor is the variable input.
- E. Total cost.

101 COSTS / FOUNDATION

The correct relationship between total cost, total fixed cost, and total variable cost is

- A. $TC = TFC + TVC$.
- B. $TC = TFC \times TVC$.
- C. $TC = TFC - TVC$.
- D. $TC = TVC / TFC$.
- E. $TC = TFC / TVC$.

102 COSTS / APPLICATION

If output is 8 and total fixed cost is \$160, average fixed cost is

- A. \$8.

- B. \$152.
- C. \$20.
- D. \$160.
- E. \$1,280.

103 COSTS / CHALLENGE

When marginal cost lies below average total cost, increasing output tends to

- A. increase average total cost.
- B. cause price to increase for a price-taking firm.
- C. decrease average total cost.
- D. make total fixed cost negative.
- E. leave average total cost unchanged in all cases.

104 COSTS / APPLICATION

The marginal cost curve intersects the average variable cost curve

- A. only when average fixed cost is zero.
- B. only where total revenue equals zero.
- C. at the maximum point of the AVC curve.
- D. at every possible output level.
- E. at the minimum point of the AVC curve.

105 COSTS / APPLICATION

As output increases in the short run, average fixed cost generally

- A. decreases.
- B. becomes greater than total fixed cost.
- C. becomes negative after enough production.
- D. increases.
- E. remains constant at every positive output.

106 COSTS / CHALLENGE

Which relation must hold for positive fixed costs and positive production?

- A. $ATC = AVC$.
- B. $ATC > AVC$.
- C. $TVC > TC$ at every output.
- D. $MC = ATC$ at every output.
- E. $ATC < AVC$.

107 COSTS / FOUNDATION

Marginal cost is calculated as

- A. total fixed cost divided by output.
- B. change in revenue divided by change in output.
- C. total cost divided by total output.
- D. change in total cost divided by change in output.
- E. price multiplied by output.

108 COSTS / CHALLENGE

A firm's total cost rises from \$1,050 to \$1,138 as output rises from 35 to 39 units. Marginal cost per extra unit over this interval is

- A. \$2.26.
- B. \$88.
- C. \$22.
- D. \$54.
- E. \$28.50.

109 COSTS / APPLICATION

When the marginal cost curve is above the average variable cost curve, further production generally

- A. makes total fixed cost rise per unit.
- B. raises average variable cost.
- C. guarantees positive economic profit.
- D. lowers average variable cost.
- E. leaves average variable cost unchanged necessarily.

110 COSTS / CHALLENGE

What is the vertical difference between ATC and AVC at a given positive output?

- A. The wage rate.
- B. The firm's revenue per unit.
- C. The unit tax collected from the firm.
- D. AFC at that output.
- E. MC at that output.

111 LONG-RUN COSTS / FOUNDATION

Which statement best distinguishes the long run from the short run?

- A. Production has no opportunity cost in the long run.
- B. Firms cannot enter or exit in the long run.
- C. All input quantities are variable in the long run.
- D. The output price is always fixed in the long run.
- E. Every cost is fixed in the long run.

112 LONG-RUN COSTS / APPLICATION

Economies of scale occur when increasing scale causes

- A. long-run average total cost to increase.
- B. long-run average total cost to decrease.
- C. average fixed cost to increase by definition.
- D. long-run marginal revenue to decrease necessarily.
- E. all inputs to become fixed.

113 LONG-RUN COSTS / APPLICATION

Diseconomies of scale are present when

- A. every worker becomes more productive.
- B. the output price must exceed average total cost.
- C. long-run average cost rises as output expands.
- D. short-run marginal cost is always zero.
- E. long-run average cost falls as output expands.

114 LONG-RUN COSTS / CHALLENGE

Minimum efficient scale is the smallest output at which

- A. accounting profit reaches zero in every market.
- B. long-run average total cost reaches its minimum.
- C. marginal utility equals zero.
- D. the market demand curve becomes vertical.
- E. total fixed cost becomes exactly zero.

115 LONG-RUN COSTS / APPLICATION

A factory doubles all inputs and more than doubles output. This demonstrates

- A. increasing returns to scale.
- B. decreasing returns to scale.
- C. diminishing marginal returns to a fixed input.
- D. a shutdown decision.
- E. constant returns to scale.

116 LONG-RUN COSTS / CHALLENGE

Which statement correctly contrasts economies of scale and diminishing marginal returns?

- A. Both describe precisely the same adjustment with all inputs fixed.
- B. Neither relates to production technology.
- C. Diminishing returns can occur only when all inputs change proportionately.
- D. Economies of scale concern all inputs changing; diminishing returns concern a variable input with others fixed.

E. Economies of scale necessarily cause a short-run shutdown.

117 TYPES OF PROFIT / FOUNDATION

Economic profit equals

- A. total revenue minus explicit and implicit costs.
- B. total revenue minus explicit costs only.
- C. total revenue minus consumer surplus.
- D. total revenue minus fixed costs only.
- E. total revenue plus opportunity costs.

118 TYPES OF PROFIT / APPLICATION

A business has \$240,000 of revenue, \$180,000 in explicit costs, and \$35,000 in implicit costs. Economic profit equals

- A. -\$25,000.
- B. \$25,000.
- C. \$35,000.
- D. \$60,000.
- E. \$95,000.

119 TYPES OF PROFIT / APPLICATION

Economic profit of zero means the firm is

- A. paying zero wages.
- B. necessarily making a negative accounting profit.
- C. receiving zero revenue.
- D. unable to remain in the industry.
- E. covering all explicit and implicit opportunity costs.

120 TYPES OF PROFIT / CHALLENGE

A firm earns \$55,000 in accounting profit while forgoing an owner's salary of \$70,000 that is not counted elsewhere. Its economic profit is

- A. -\$70,000.
- B. +\$15,000.
- C. +\$55,000.
- D. -\$15,000.
- E. +\$125,000.

UNIT 02 / FREE RESPONSE

The following tasks are original AP-format practice. Provide equations, labeled diagrams and causal explanations.

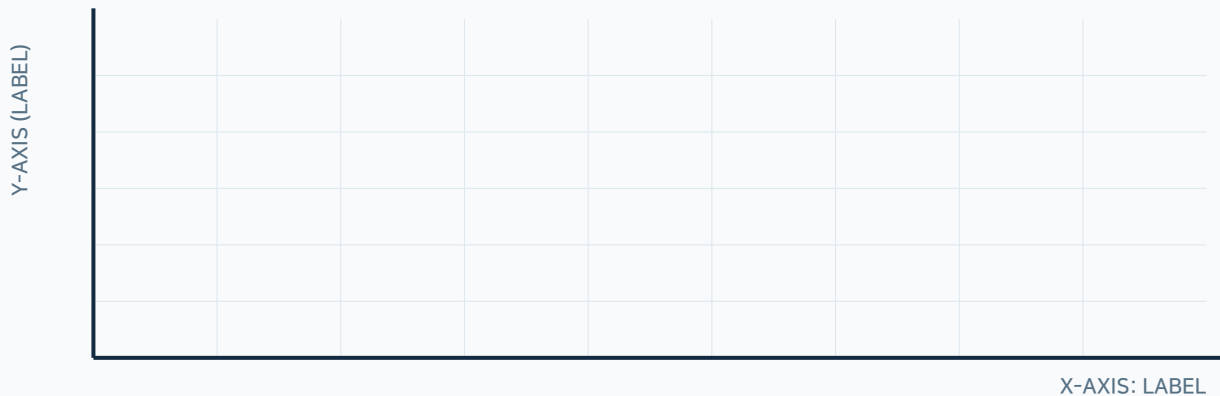
FRQ 07 / Demand Shock and Market Equilibrium

LONG FORM 10 POINTS UNIT 2 2.1-2.6

Demand and supply are described by $Q_d = 150 - 3P$ and $Q_s = 30 + P$. An increase in consumer preference changes demand to $Q_d(\text{new}) = 190 - 3P$. Assume no supply shift.

- (a) Calculate initial equilibrium price and quantity. [2 pts]
- (b) On a correctly labeled market graph show initial demand, supply, and the initial equilibrium. [2 pts]
- (c) Show and label the demand shift and new equilibrium on the graph. [2 pts]
- (d) Calculate the new equilibrium price and quantity. [2 pts]
- (e) If supply decreased at the same time as demand increased, explain which equilibrium variable would be determinate and which would be ambiguous. [2 pts]

GRAPHING SPACE / Draw and clearly label all relevant curves and points.



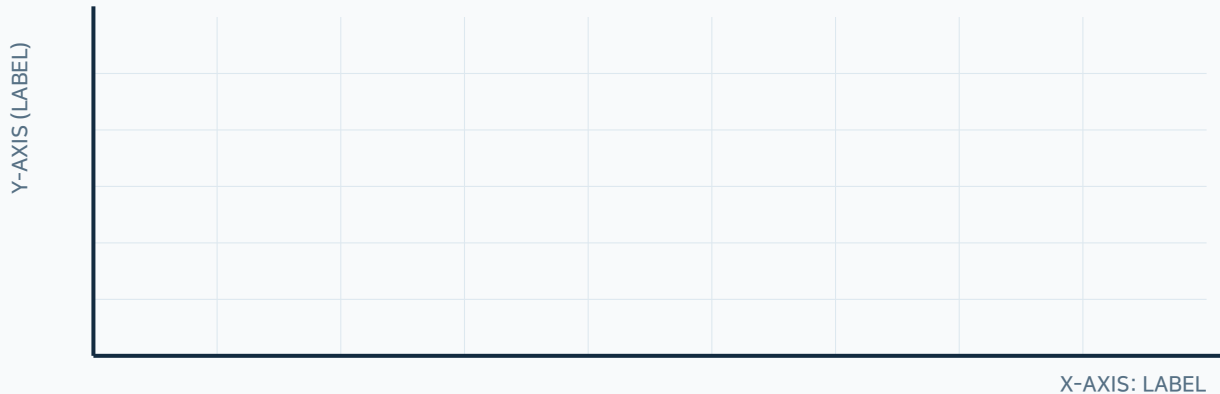
FRQ 08 / Tax Incidence and Deadweight Loss

LONG FORM 10 POINTS UNIT 2 2.6-2.8

A competitive market has inverse demand $P = 100 - Q$ and inverse supply $P = 20 + Q$. The government imposes a \$20 per-unit tax on sellers. Assume no externalities.

- (a) Compute the pretax equilibrium price and quantity. [2 pts]
- (b) Calculate after-tax quantity, price buyers pay, and net price sellers receive. [3 pts]
- (c) Compute total tax revenue. [1 pt]
- (d) Compute the deadweight loss caused by the tax. [2 pts]
- (e) Explain how much of the per-unit tax burden falls on buyers and sellers. [2 pts]

GRAPHING SPACE / Draw and clearly label all relevant curves and points.



FRQ 09 / Midpoint Elasticity and Revenue

SHORT FORM 5 POINTS UNIT 2 2.3

A firm raises its price from \$10 to \$12. Quantity demanded decreases from 120 to 96 units. Treat these changes as movements along one demand curve.

- Using the midpoint method, calculate the absolute price elasticity of demand. [3 pts]
- Classify demand as elastic, inelastic, or unit elastic over the interval. [1 pt]
- Determine whether total revenue rises or falls. [1 pt]

FRQ 10 / Binding Price Ceiling

SHORT FORM 5 POINTS UNIT 2 2.7

In an apartment-rental market, equilibrium rent is \$1,100. The government limits rent to \$900. At that price, quantity demanded is 130 apartments and quantity supplied is 80.

- State whether the ceiling is binding and why. [1 pt]
- Calculate the shortage. [2 pts]
- Identify the maximum number of apartments that can be rented at the controlled price from current supply. [1 pt]
- Give one economic explanation for nonprice rationing. [1 pt]

FRQ 11 / Tariffs and Import Calculations

SHORT FORM 5 POINTS UNIT 2 2.9

A small country has an autarky price of \$50. At the free-trade world price of \$30, domestic $Q_d=130$ and $Q_s=40$. A \$10 tariff raises the domestic price to \$40; then domestic $Q_d=105$ and $Q_s=55$.

- Calculate imports under free trade. [1 pt]
- Calculate imports with the tariff. [1 pt]
- Calculate government tariff revenue. [2 pts]
- Identify whether domestic consumers or domestic producers benefit from the price increase. [1 pt]

FRQ 12 / Cross-Price and Income Elasticity

SHORT FORM 5 POINTS UNIT 2 2.5

The price of coffee rises by 20%, causing the quantity demanded of tea to rise by 10%. Separately, household income rises by 10%, causing demand for bus trips to fall by 5%.

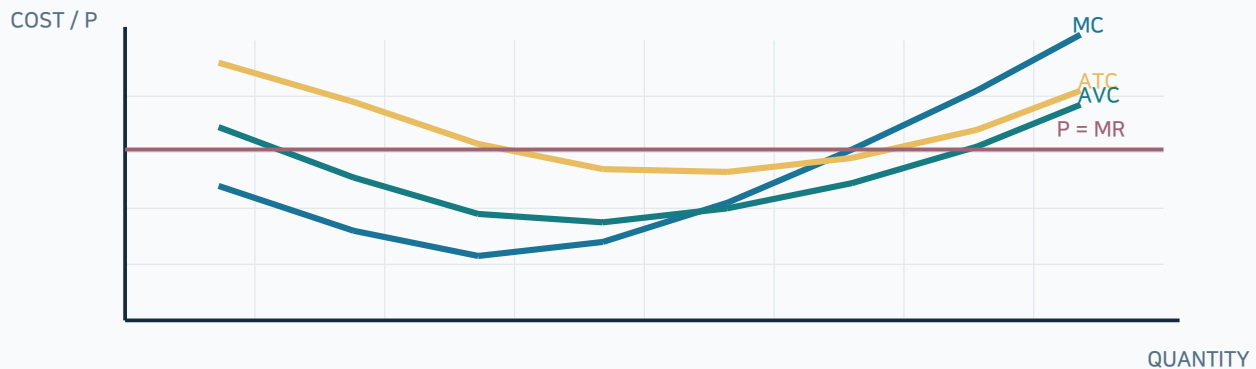
- Calculate cross-price elasticity of tea with respect to coffee price. [2 pts]
- Classify coffee and tea as substitutes or complements. [1 pt]
- Calculate income elasticity of demand for bus trips. [1 pt]
- Classify bus trips as normal or inferior using the given data. [1 pt]

UNIT 03 / PRODUCTION COST & PERFECT COMPETITION

Marginal product / Cost curves / Economic profit / Entry, exit & shutdown

60 MULTIPLE-CHOICE QUESTIONS

Choose the single best answer (A-E). This section intentionally includes challenging distractors.



Graph study reminder: label both axes, distinguish a movement along a curve from a shift, and explain the causal chain.

121 TYPES OF PROFIT / CHALLENGE

Compared with accounting profit, economic profit is generally

- A. lower when the firm uses scarce owner resources with implicit costs.
- B. higher by the entire amount of implicit costs.
- C. equal to marginal revenue.
- D. identical regardless of implicit opportunity costs.
- E. always positive when accounting profit is positive.

122 PROFIT MAXIMIZATION / FOUNDATION

A firm maximizes profit at a quantity where it

- A. maximizes total revenue regardless of cost.
- B. sets price equal to average fixed cost.
- C. minimizes total cost without selling output.
- D. maximizes average fixed cost.
- E. produces the quantity where marginal revenue equals marginal cost, with MC rising through MR.

123 PROFIT MAXIMIZATION / APPLICATION

If marginal revenue from an additional unit exceeds marginal cost, a firm can raise profit by

- A. shutting down immediately.
- B. reducing output by that unit.

- C. ignoring additional revenue.
- D. increasing output by that unit.
- E. raising total fixed cost.

124 PROFIT MAXIMIZATION / APPLICATION

A perfectly competitive firm sells at \$28 per unit. For the next units, MC is \$23, \$27, and \$33. Assuming earlier units were profitable, which principle determines the stopping point?

- A. Produce none of the listed units.
- B. Produce the third listed unit only.
- C. Stop before the unit costing \$27.
- D. Produce the first two listed units, not the third.
- E. Produce all three listed units.

125 PERFECT COMPETITION / FOUNDATION

A price-taking firm in perfect competition faces

- A. a vertical individual demand curve regardless of market conditions.
- B. a downward-sloping individual demand curve with price-setting power.
- C. a horizontal individual demand curve at the market price.
- D. a market demand curve identical to its own demand.
- E. a horizontal market supply curve by definition.

126 PERFECT COMPETITION / APPLICATION

For a perfectly competitive price-taking firm, which equality holds?

- A. $P = MC = ATC$ at every quantity and every time.
- B. $P = MR = AR$.
- C. $TR = TC$ by definition.
- D. $P > MR$ at all quantities.
- E. AR is always less than MR .

127 PERFECT COMPETITION / FOUNDATION

Which is characteristic of a perfectly competitive market?

- A. Each seller faces a downward-sloping demand curve due to brand loyalty.
- B. Government alone sets the market price.
- C. A single seller controls the entire market.
- D. Firms sell differentiated brands with substantial market power.
- E. Many firms sell an essentially identical product with free entry and exit.

128 PERFECT COMPETITION / APPLICATION

When the market demand for a perfectly competitive good rises in the short run, an individual firm initially tends to experience

- A. a rightward shift of its downward-sloping firm demand curve.
- B. a permanent guarantee of zero economic profit immediately.
- C. unchanged marginal revenue despite the price increase.
- D. a higher market price and an upward shift of its horizontal demand curve.
- E. a lower price as market quantity rises.

129 PERFECT COMPETITION / CHALLENGE

A perfectly competitive firm chooses Q^* where $P=MC$. At Q^* , ATC is below P . The firm is

- A. necessarily below its AVC.
- B. incurring an economic loss.
- C. earning exactly zero accounting profit.
- D. earning positive economic profit.
- E. required to shut down immediately.

130 PERFECT COMPETITION / APPLICATION

At the output maximizing short-run profit, price equals ATC and exceeds AVC. The firm earns

- A. negative economic profit.
- B. zero economic profit.
- C. negative total revenue.
- D. a loss exactly equal to total variable cost.
- E. positive economic profit.

131 SHUTDOWN / FOUNDATION

A price-taking firm should shut down in the short run when the best attainable price is

- A. below minimum average variable cost.
- B. equal to average total cost.
- C. above minimum marginal cost in every circumstance.
- D. below average total cost but above average variable cost.
- E. greater than average total cost.

132 SHUTDOWN / APPLICATION

A firm's profit-maximizing price is \$17, AVC is \$13, and ATC is \$22. Which statement is correct?

- A. Shut down because price is below ATC.
- B. Continue producing in the short run while incurring an economic loss.
- C. Immediately raise price to \$22 regardless of competitors.
- D. Stop producing whenever total fixed cost is positive.
- E. Earn positive economic profit.

133 SHUTDOWN / CHALLENGE

If a firm shuts down temporarily in the short run, which cost usually remains?

- A. All variable raw-material costs.
- B. Total revenue from new sales.
- C. Marginal cost of the units it does not produce.
- D. All variable labor costs.
- E. Total fixed cost.

134 SHUTDOWN / CHALLENGE

A firm would lose \$900 if it produces at its best available output but lose \$700 if it shuts down. Which decision minimizes its short-run loss?

- A. Increase production indefinitely.
- B. Exit the market instantly without regard to existing fixed commitments.
- C. Produce and incur the \$900 loss.
- D. Shut down and bear the \$700 fixed-cost loss.
- E. Raise the market price unilaterally.

135 ENTRY AND EXIT / FOUNDATION

When representative perfectly competitive firms earn sustained positive economic profit, the long-run tendency is

- A. permanent positive economic profit with no entry.
- B. exit of firms, a decrease in market supply, and a higher price.
- C. entry of firms, an increase in market supply, and a lower price.
- D. entry of firms, a decrease in market supply, and a higher price.
- E. a guaranteed downward shift in demand.

136 ENTRY AND EXIT / APPLICATION

In long-run competitive equilibrium with identical firms and free entry, each surviving firm typically earns

- A. price below minimum AVC.
- B. revenue equal to zero.
- C. positive economic profit forever.
- D. negative economic profit at minimum AVC.
- E. zero economic profit at minimum ATC.

137 ENTRY AND EXIT / APPLICATION

When most firms sustain economic losses in a perfectly competitive industry, the long-run effect tends to be

- A. firm entry, a rightward supply shift, and lower market price.

- B. a rightward shift in market demand by definition.
- C. firm exit, a leftward market supply shift, and higher market price.
- D. continued expansion until price equals AVC only.
- E. permanent losses for every firm regardless of entry barriers.

138 ENTRY AND EXIT / CHALLENGE

A representative firm currently earns positive economic profit and the market is constant-cost. After long-run entry, which pair of outcomes is likely?

- A. Lower market price and larger total industry output.
- B. Unchanged market price and guaranteed permanent economic profit.
- C. Lower market price and lower total industry output.
- D. Higher market price and unchanged number of firms.
- E. Higher market price and lower total industry output.

139 ENTRY AND EXIT / CHALLENGE

For a competitive firm in a constant-cost industry, long-run equilibrium is best described by

- A. $MC = AFC$ and $P < AVC$.
- B. $P = MR < \text{minimum } AVC$.
- C. $MR = 0$ and $TC = 0$.
- D. $P = MR = MC = \text{minimum } ATC$.
- E. $P > \text{minimum } ATC$ at all times.

140 PPC / APPLICATION

A linear PPC shows a maximum of 72 drones or 216 batteries. How many batteries are sacrificed to produce 4 additional drones?

- A. 12 batteries
- B. 3 batteries
- C. 36 batteries
- D. 18 batteries
- E. 72 batteries

141 PPC / CHALLENGE

A PPC has possible points $(X,Y) = (0,100), (5,94), (10,83), (15,65)$. What is the opportunity cost of increasing X from 10 to 15?

- A. 11 units of Y
- B. 5 units of Y
- C. 18 units of Y
- D. 65 units of Y
- E. 35 units of Y

142 COMPARATIVE ADVANTAGE / CHALLENGE

Workers in Alpha can make 24 hats or 8 scarves in one day. What is the opportunity cost of 3 scarves in hats?

- A. 9 hats
- B. 12 hats
- C. 6 hats
- D. 72 hats
- E. 3 hats

143 COMPARATIVE ADVANTAGE / CHALLENGE

Beta can make 25 songs or 50 illustrations with equal resources. How many illustrations are sacrificed to produce 7 songs?

- A. 50 illustrations
- B. 21 illustrations
- C. 7 illustrations
- D. 28 illustrations
- E. 14 illustrations

144 COST-BENEFIT / APPLICATION

An internship pays \$800 but requires \$125 of travel costs and causes \$350 in wages to be forgone. What is the net economic benefit?

- A. 1,275 dollars
- B. 675 dollars
- C. 925 dollars
- D. 450 dollars
- E. 325 dollars

145 MARGINAL CHOICE / CHALLENGE

The marginal benefits of the first four units are \$38, \$31, \$19, and \$9. If each unit has $MC = \$20$, how many units maximize net benefit?

- A. 1 units
- B. 3 units
- C. 2 units
- D. 4 units
- E. 0 units

146 MARGINAL CHOICE / APPLICATION

A good provides marginal utility of 54 at a price of \$9. What is its marginal utility per dollar?

- A. 6 utils/\$

- B. 63 utils/\$
- C. 5 utils/\$
- D. 9 utils/\$
- E. 45 utils/\$

147 MARGINAL CHOICE / CHALLENGE

The first five hours produce marginal benefits of \$18, \$17, \$14, \$11, and \$6. MC of each hour is \$10. How many hours are efficient?

- A. 4 hours
- B. 1 hours
- C. 5 hours
- D. 3 hours
- E. 2 hours

148 COST-BENEFIT / CHALLENGE

A student spends \$30 on materials, forgoes \$75 in hourly wages, and gains an economic benefit of \$160. What is net economic benefit?

- A. 130 dollars
- B. 55 dollars
- C. 190 dollars
- D. 85 dollars
- E. 265 dollars

149 PPC / APPLICATION

The PPC intercepts are 40 electric bikes and 100 scooters and opportunity cost is constant. What is the maximum feasible number of scooters when 16 electric bikes are made?

- A. 40 scooters
- B. 100 scooters
- C. 60 scooters
- D. 16 scooters
- E. 84 scooters

150 COMPARATIVE ADVANTAGE / CHALLENGE

A producer needs 4 labor hours per lamp or 6 hours per chair. How many lamps is the opportunity cost of making 2 chairs?

- A. 2 lamps
- B. 4 lamps
- C. 3 lamps
- D. 1 lamps
- E. 6 lamps

151 MARGINAL CHOICE / CHALLENGE

A person can buy X for \$4 or Y for \$5. MU of the next X is 28 and MU of the next Y is 30. By how many utils per dollar does X exceed Y?

- A. 2 utils/\$
- B. 6 utils/\$
- C. 4 utils/\$
- D. 7 utils/\$
- E. 1 utils/\$

152 PPC / CHALLENGE

On a linear PPC, moving from (10,80) to (20,55) represents an increase in X by 10. What is the opportunity cost of one more X?

- A. 0.4 units of Y
- B. 2.5 units of Y
- C. 1.5 units of Y
- D. 25 units of Y
- E. 10 units of Y

153 COMPARATIVE ADVANTAGE / CHALLENGE

One worker can make 8 cabinets or 24 tables in a week. What is the opportunity cost of producing 5 cabinets?

- A. 5 tables
- B. 15 tables
- C. 19 tables
- D. 8 tables
- E. 24 tables

154 MARKET EQUILIBRIUM / CHALLENGE

Market demand is $Q_d = 100 - 2P$ and supply is $Q_s = 20 + 2P$. What is the equilibrium price?

- A. 30 dollars
- B. 25 dollars
- C. 15 dollars
- D. 40 dollars
- E. 20 dollars

155 MARKET EQUILIBRIUM / CHALLENGE

Market demand is $Q_d = 160 - 4P$ and supply is $Q_s = 40 + 2P$. What is equilibrium quantity?

- A. 20 units

- B. 80 units
- C. 100 units
- D. 120 units
- E. 60 units

156 PRICE CONTROLS / CHALLENGE

At a binding price ceiling of \$12, quantity demanded is 110 and quantity supplied is 75. What is the shortage?

- A. 110 units
- B. 15 units
- C. 35 units
- D. 75 units
- E. 185 units

157 PRICE CONTROLS / CHALLENGE

At a binding price floor, quantity demanded is 44 and quantity supplied is 82. What is the surplus?

- A. 82 units
- B. 44 units
- C. 126 units
- D. 18 units
- E. 38 units

158 MARKET SURPLUS / CHALLENGE

A linear demand curve has a price intercept of \$70, equilibrium price \$30, and equilibrium quantity 12. What is consumer surplus?

- A. 480 dollars
- B. 240 dollars
- C. 360 dollars
- D. 120 dollars
- E. 420 dollars

159 MARKET SURPLUS / CHALLENGE

A linear supply curve has a price intercept of \$8, equilibrium price \$28, and equilibrium quantity 15. What is producer surplus?

- A. 150 dollars
- B. 300 dollars
- C. 420 dollars
- D. 210 dollars
- E. 75 dollars

160 ELASTICITY / CHALLENGE

Price increases from \$10 to \$12, and quantity demanded falls from 120 to 100. By the midpoint method, what is the absolute price elasticity of demand?

- A. 0.83 (absolute value)
- B. 2 (absolute value)
- C. 1 (absolute value)
- D. 0.5 (absolute value)
- E. 1.2 (absolute value)

161 ELASTICITY / CHALLENGE

Income rises by 10%, and quantity demanded for a good falls by 4%. What is income elasticity of demand?

- A. 2.5
- B. -2.5
- C. -0.4
- D. 0.4
- E. -4

162 ELASTICITY / APPLICATION

The price of a related good rises 5%, and demand for the focal good rises 15%. What is cross-price elasticity?

- A. 3
- B. -0.33
- C. -3
- D. 0.33
- E. 20

163 TAX AND SUBSIDY / CHALLENGE

A per-unit tax raises the buyers' price from \$20 to \$26 and lowers the sellers' net price from \$20 to \$17. What is the tax per unit?

- A. 9 dollars
- B. 6 dollars
- C. 26 dollars
- D. 3 dollars
- E. 17 dollars

164 TAX AND SUBSIDY / CHALLENGE

After a \$4 per-unit tax, 75 units are traded. What is government tax revenue?

- A. 225 dollars
- B. 600 dollars

- C. 75 dollars
- D. 150 dollars
- E. 300 dollars

165 INTERNATIONAL TRADE / CHALLENGE

At the world price domestic buyers demand 210 units, while domestic firms supply 85. How many units are imported?

- A. 85 units
- B. 105 units
- C. 210 units
- D. 295 units
- E. 125 units

166 INTERNATIONAL TRADE / CHALLENGE

After a tariff domestic demand is 170, domestic supply is 105, and the tariff is \$6 per unit. How much tariff revenue does the government collect?

- A. 630 dollars
- B. 1,020 dollars
- C. 1,650 dollars
- D. 390 dollars
- E. 65 dollars

167 PRODUCTION FUNCTION / APPLICATION

Total product rises from 145 units with 5 workers to 168 units with 6 workers. What is the sixth worker's marginal product?

- A. 23 units
- B. 28 units
- C. 6 units
- D. 168 units
- E. 24 units

168 PRODUCTION FUNCTION / APPLICATION

Eight workers produce 224 units of output. What is average product of labor?

- A. 16 units/worker
- B. 28 units/worker
- C. 8 units/worker
- D. 32 units/worker
- E. 224 units/worker

169 COSTS / CHALLENGE

Total cost rises from \$620 at 12 units to \$692 at 15 units. What is marginal cost per unit over this interval?

- A. 72 dollars
- B. 46 dollars
- C. 15 dollars
- D. 22 dollars
- E. 24 dollars

170 COSTS / APPLICATION

At output 16, total fixed cost is \$320. What is average fixed cost?

- A. 320 dollars
- B. 32 dollars
- C. 20 dollars
- D. 16 dollars
- E. 80 dollars

171 COSTS / CHALLENGE

At output 12, total cost is \$540 and fixed cost is \$180. What is average variable cost?

- A. 15 dollars
- B. 45 dollars
- C. 60 dollars
- D. 30 dollars
- E. 360 dollars

172 COSTS / CHALLENGE

At output 15, total cost is \$825. What is average total cost?

- A. 15 dollars
- B. 45 dollars
- C. 825 dollars
- D. 65 dollars
- E. 55 dollars

173 TYPES OF PROFIT / CHALLENGE

A firm has revenue of \$280,000, explicit cost of \$210,000, and implicit cost of \$45,000. What is economic profit?

- A. 25,000 dollars
- B. 70,000 dollars
- C. 115,000 dollars
- D. 45,000 dollars
- E. -25,000 dollars

174 PERFECT COMPETITION / CHALLENGE

A competitive firm sells 30 units at \$26 each. Its total cost is \$690. What is economic profit?

- A. 690 dollars
- B. 60 dollars
- C. 90 dollars
- D. 30 dollars
- E. 780 dollars

175 PERFECT COMPETITION / CHALLENGE

A competitive firm faces $P=\$16$. Marginal costs of units 1 to 5 are \$8, \$11, \$14, \$19, and \$24. How many units should it produce if it can cover variable costs?

- A. 4 units
- B. 1 units
- C. 2 units
- D. 5 units
- E. 3 units

176 SHUTDOWN / CHALLENGE

A firm's revenue is \$850, variable cost is \$780, and fixed cost is \$180 at its best operating quantity. What is its short-run loss if it operates?

- A. 180 dollars
- B. 70 dollars
- C. 960 dollars
- D. 110 dollars
- E. 780 dollars

177 SHUTDOWN / CHALLENGE

A firm has total revenue \$720, total variable cost \$780, and unavoidable fixed cost \$150 if it produces. By how much is its loss reduced if it shuts down?

- A. 60 dollars
- B. 150 dollars
- C. 720 dollars
- D. 30 dollars
- E. 780 dollars

178 COSTS / CHALLENGE

At $Q=10$ a firm has $ATC=\$48$ and $AVC=\$31$. What is its total fixed cost?

- A. 170 dollars

- B. 17 dollars
- C. 310 dollars
- D. 480 dollars
- E. 790 dollars

179 PROFIT MAXIMIZATION / CHALLENGE

At $Q=25$ a competitive firm sells at \$40 and incurs $ATC=\$35$. What is total economic profit?

- A. 5 dollars
- B. 35 dollars
- C. 125 dollars
- D. 875 dollars
- E. 1,000 dollars

180 PRODUCTION FUNCTION / CHALLENGE

A producer's output rises from 180 to 210 units when workers increase from 6 to 8. What is average marginal product per additional worker?

- A. 8 units/worker
 - B. 20 units/worker
 - C. 15 units/worker
 - D. 105 units/worker
 - E. 30 units/worker
-

UNIT 03 / FREE RESPONSE

The following tasks are original AP-format practice. Provide equations, labeled diagrams and causal explanations.

FRQ 13 / Production Cost and the Shutdown Rule

LONG FORM 10 POINTS UNIT 3 3.1-3.7

A price-taking bakery has total fixed cost of \$100. Its total costs by quantity are shown in the table. The market price is \$40 per unit. Assume marginal cost will continue to rise at higher quantities.

Output Q	0	1	2	3	4	5	6
Total cost	100	140	173	207	244	286	334

- (a) Calculate total variable cost at Q=4. [1 pt]
- (b) Calculate marginal cost of the fifth unit. [2 pts]
- (c) Determine the profit-maximizing quantity and explain using MR and MC. [2 pts]
- (d) Calculate economic profit or loss at that output. [2 pts]
- (e) Calculate AVC at Q=4 and state whether to operate in the short run. [2 pts]
- (f) If losses persist and entry/exit is free, predict the long-run effect on industry supply. [1 pt]

GRAPHING SPACE / Draw and clearly label all relevant curves and points.



FRQ 14 / Entry, Exit, and Two Competitive Graphs

LONG FORM 10 POINTS UNIT 3 3.4-3.7

A price-taking firm currently produces 50 units at market price \$35, and its ATC at that output is \$28. Suppose $MC = \$35$ at 50 units. The industry has free entry and is a constant-cost industry with a minimum attainable ATC of \$25.

- (a) Calculate the firm's current economic profit. [2 pts]
- (b) Draw an industry graph and a separate representative-firm graph. Label the market price and firm's $P=MR$ line at \$35. [2 pts]
- (c) Show the current profit-maximizing output and economic profit area on the firm graph. [2 pts]
- (d) Predict and explain the direction of firm entry, industry supply, and market price in the long run. [2 pts]
- (e) State the long-run price and economic profit under the constant-cost assumptions. [2 pts]

GRAPHING SPACE / Draw and clearly label all relevant curves and points.

INDUSTRY MARKET



INDIVIDUAL COMPETITIVE FIRM



FRQ 15 / Marginal and Average Product

SHORT FORM 5 POINTS UNIT 3 3.1

A workshop records total output at 0 through 5 workers: 0, 12, 28, 39, 47, and 53 units, respectively. Other inputs are fixed.

Workers	0	1	2	3	4	5
Total output	0	12	28	39	47	53

- Compute the marginal product of the third worker. [2 pts]
- Compute average product with three workers. [1 pt]
- Identify when diminishing marginal returns first appear in the table. [1 pt]
- Does total product fall when the fourth worker is added? Explain. [1 pt]

FRQ 16 / Returns to Scale

SHORT FORM 5 POINTS UNIT 3 3.3

A production facility initially uses 4 machines and 8 workers to produce 100 units. After expansion it uses 8 machines and 16 workers and produces 300 units. Assume factor prices are unchanged.

- Identify the proportional change in each input. [1 pt]
- Calculate the proportional change in output. [1 pt]
- Classify returns to scale and explain. [2 pts]
- Predict the direction of long-run average cost if constant factor prices and this technology persist. [1 pt]

SHORT FORM 5 POINTS UNIT 3 3.4, 3.7

(c) If the loss persists in a freely competitive industry over the long run, predict one market-level adjustment. [1 pt]

FRQ 18 / Short-Run Shutdown Comparison

SHORT FORM 5 POINTS UNIT 3 3.6

A price-taking firm can sell 100 units at price \$14. At that quantity, $AVC = \$16$ and $ATC = \$21$. Unavoidable fixed cost is \$500. Assume no alternative positive-output quantity covers variable cost.

- Calculate revenue if it produces 100 units. [1 pt]
- Calculate its loss if it produces 100 units. [1 pt]
- Calculate the loss if it shuts down temporarily. [1 pt]
- Recommend whether to produce and justify using the shutdown rule. [2 pts]

MULTIPLE-CHOICE ANSWER RECORD

Fill one letter per question. Keep this page separate from your worked calculations.

UNIT 01 / QUESTIONS 001-060

001 _____	016 _____	031 _____	046 _____
002 _____	017 _____	032 _____	047 _____
003 _____	018 _____	033 _____	048 _____
004 _____	019 _____	034 _____	049 _____
005 _____	020 _____	035 _____	050 _____
006 _____	021 _____	036 _____	051 _____
007 _____	022 _____	037 _____	052 _____
008 _____	023 _____	038 _____	053 _____
009 _____	024 _____	039 _____	054 _____
010 _____	025 _____	040 _____	055 _____
011 _____	026 _____	041 _____	056 _____
012 _____	027 _____	042 _____	057 _____
013 _____	028 _____	043 _____	058 _____
014 _____	029 _____	044 _____	059 _____
015 _____	030 _____	045 _____	060 _____

UNIT 02 / QUESTIONS 061-120

061 _____	076 _____	091 _____	106 _____
062 _____	077 _____	092 _____	107 _____
063 _____	078 _____	093 _____	108 _____
064 _____	079 _____	094 _____	109 _____
065 _____	080 _____	095 _____	110 _____
066 _____	081 _____	096 _____	111 _____
067 _____	082 _____	097 _____	112 _____

068 _____	083 _____	098 _____	113 _____
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072 _____	087 _____	102 _____	117 _____
073 _____	088 _____	103 _____	118 _____
074 _____	089 _____	104 _____	119 _____
075 _____	090 _____	105 _____	120 _____

UNIT 03 / QUESTIONS 121-180

121 _____	136 _____	151 _____	166 _____
122 _____	137 _____	152 _____	167 _____
123 _____	138 _____	153 _____	168 _____
124 _____	139 _____	154 _____	169 _____
125 _____	140 _____	155 _____	170 _____
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132 _____	147 _____	162 _____	177 _____
133 _____	148 _____	163 _____	178 _____
134 _____	149 _____	164 _____	179 _____
135 _____	150 _____	165 _____	180 _____

OFFICIAL REFERENCE & SCOPE NOTE

This independently prepared question bank is aligned to the 2026 Fall-effective AP Microeconomics Course and Exam Description and covers the three units provided in the student's midterm scope. It is not affiliated with or endorsed by College Board, The Princeton Review, or USIS. School-specific midterm exam questions and the school's exact testing format have not been authenticated.

COLLEGE BOARD / OFFICIAL RESOURCES

Course and Exam Description:

<https://apcentral.collegeboard.org/media/pdf/ap-microeconomics-course-and-exam-description.pdf>

AP Exam structure and tools: <https://apcentral.collegeboard.org/courses/ap-microeconomics/exam>

Past free-response questions: <https://apcentral.collegeboard.org/courses/ap-microeconomics/exam/past-exam-questions>

NEXT STEP

After mastering this expanded practice bank, complete a separate timed 60-MCQ + 3-FRQ simulation using a validated USIS midterm blueprint when available. The present book deliberately exceeds a single AP test's number of questions.