

Multiple choice: Choose the best response to each prompt.

1. The production possibilities frontier model illustrates which of the following?
 - (a) The quantity and price of goods in equilibrium.
 - (b) How increasing production of one good leads to an increase in production of another good.
 - (c) The quantities and combination of goods that a country can possibly produce, given its resources.
 - (d) Governments' decisions for how much of each good to produce.

2. The law of increasing opportunity costs leads to what feature of the PPF graph?
 - (a) Upward slope
 - (b) Bowed-outward shape
 - (c) Bowed-inward shape
 - (d) Downward slope

3. Which of the following scenarios would likely cause an inward shift of the production possibility curve?
 - (a) Implementation of more advanced technology in production processes
 - (b) Discovery of new natural resources
 - (c) A natural disaster destroying a significant portion of productive resources
 - (d) An increase in the educational attainment of the workforce

4. Which of the following would most likely cause an outward shift of a country's production possibility curve?
 - (a) An increase in the level of technology
 - (b) A decrease in available labor
 - (c) A decrease in natural resources
 - (d) A decline in technology level

5. If an economy is producing efficiently, which of the following can lead to economic growth?
 - (a) Shifting the PPF inward.
 - (b) Producing more efficiently.
 - (c) Higher wages.
 - (d) Additional or improved infrastructure.

6. Suppose there is no unemployment in the economy and society decides that it wants more of one good. Which of the following statements is true?
- (a) It will have to give up production and consumption of some other good.
 - (b) It can only achieve this with an advance in technology.
 - (c) It can only achieve this with an increase in resource supplies.
 - (d) It can increase output without giving up another good.
7. The law of demand represents the
- (a) the positive relationship between the price of a good and the quantity supplied of that good.
 - (b) positive relationship between the price of a good and the quantity demanded of that good.
 - (c) negative relationship between the price of a good and the quantity supplied of that good.
 - (d) negative relationship between the price of a good and the quantity demanded of that good.
8. We observe that the demand curve has shifted to the left. That tells us
- (a) the law of demand does not hold for this market.
 - (b) consumers now wish to buy less of the good than before at every price.
 - (c) consumers are now willing to pay a higher price for each level of quantity.
 - (d) consumers are responding to a greater quantity supplied.
9. If the demand for good X decreases when the price of good Y decreases, what is the relationship between goods X and Y?
- (a) Substitutes
 - (b) Inferior
 - (c) Complements
 - (d) Unrelated
10. Labor (drivers) is an important input in the production of transportation services provided by Uber, Lyft, and similar services. If new government regulations were to increase the cost for Uber, Lyft, and others, to hire drivers, the result would be
- (a) a decrease in the supply of transportation services like Uber and Lyft.
 - (b) an increase in the supply of transportation services like Uber and Lyft.
 - (c) a rightward shift in the supply curve of transportation services like Uber and Lyft.
 - (d) a decrease in the supply of labor (drivers).

11. A technological advance in the production of a good or service will cause
- (a) an increase in demand for that good.
 - (b) a decrease in demand for that good.
 - (c) an increase in supply of that good.
 - (d) a decrease in supply of that good.
12. If a surplus exists in a market we know that the existing price is
- (a) below equilibrium price and quantity demanded is greater than quantity supplied.
 - (b) above equilibrium price and quantity supplied is greater than quantity demanded.
 - (c) above equilibrium price and quantity demanded is greater than quantity supplied.
 - (d) below equilibrium price and quantity supplied is greater than quantity demanded.
13. What would most likely happen to the equilibrium price and quantity in the market for a product if the price of an input used to produce the product decreased, the price of a substitute good (for consumers) increased, some suppliers decided to enter the market, and health officials announced that consuming the product lowers the risk of heart disease?
- (a) Price will decrease and the effect on quantity is ambiguous (uncertain).
 - (b) Price will increase and the effect on quantity is ambiguous (uncertain).
 - (c) The effect on both price and quantity is ambiguous (uncertain).
 - (d) Quantity will increase and the effect on price is ambiguous (uncertain).
14. What is the likely impact on the equilibrium price and quantity of bread if the cost of baking bread decreases due to lower energy costs?
- (a) Price will increase, Quantity will decrease
 - (b) Price and Quantity will remain unchanged
 - (c) Price will decrease, Quantity will decrease
 - (d) Price will decrease, Quantity will increase
15. What is likely to happen to the equilibrium price and quantity of public transportation services if consumers' income decreases?
- (a) Price will increase, Quantity will decrease
 - (b) Price and Quantity will increase
 - (c) Price will decrease, Quantity will increase
 - (d) Price and Quantity will decrease

16. If a pair of shoes costs 10,000 Japanese Yen and the exchange rate is 1 US Dollar = 109.89 Japanese Yen, how much does the pair of shoes cost in US dollars (approximately)?
- (a) 1,089.00 US Dollars
 - (b) 109.89 US Dollars
 - (c) 91.00 US Dollars
 - (d) 89.00 US Dollars
17. Suppose incomes rise in Europe, but there is no change in incomes in the United States. As a result, Europeans demand more products produced in the United States and in Europe. As a result,
- (a) the U.S. / Euro exchange rate will not be affected.
 - (b) the Euro will appreciate relative to the U.S. dollar.
 - (c) the U.S. dollar will appreciate relative to the Euro.
 - (d) both the U.S. dollar and Euro will appreciate relative to each other.
18. Suppose legal barriers in the United States are reduced to allow more imports of electronic consumer goods produced in Japan. All else remaining equal, this should lead to which of the following?
- (a) An increase in supply of U.S. dollars
 - (b) An increase in demand for U.S. dollars
 - (c) An decrease in supply of Japanese Yen
 - (d) An increase in supply of Japanese Yen
19. How will an interest rate decrease in the United States affect equilibrium in the foreign exchange market?
- (a) The U.S. dollar will appreciate, and the equilibrium quantity of dollars traded cannot be determined.
 - (b) The U.S. dollar will depreciate, and the equilibrium quantity of dollars traded cannot be determined.
 - (c) The U.S. dollar will appreciate, and the equilibrium quantity of dollars traded will increase.
 - (d) The equilibrium exchange rate cannot be determined, and the equilibrium quantity of dollars traded will increase.
20. Which of the following is a measure of the aggregate price level?
- (a) Growth rate of real GDP
 - (b) $\text{Nominal GDP} / \text{Real GDP} * 100$
 - (c) $\text{Real GDP} * 100$
 - (d) $\text{Nominal GDP} * 100$

21. Which is a correct formula for GDP using the expenditure approach?
- (a) $C + S + T + (M - X)$
 - (b) $C + I + G + (X - M) - \text{Taxes}$
 - (c) $C + G + NX + (M - X)$
 - (d) $C + I + G + (X - M)$
22. Why is real GDP a more reliable measure for economic growth comparison between years than nominal GDP?
- (a) Because it is used more frequently by economists
 - (b) Because it adjusts for changes in price or inflation, providing a more accurate representation of an economy's size
 - (c) Because it is easier to calculate
 - (d) Because it includes more components
23. Which of the following is considered investment in macroeconomics?
- (a) Business purchasing a new building
 - (b) Consumer purchases of final goods and services
 - (c) Interest earned from savings
 - (d) Consumer buying mutual funds to build savings for retirement
24. Which of the following people are considered unemployed?
- (a) Anyone not looking for work.
 - (b) Someone who is able to work, looking for work, and not employed.
 - (c) Any person not currently employed.
 - (d) Anyone in the working-age population not working.
25. What is the definition of a marginally attached worker?
- (a) Someone not currently looking for work, but would accept a job if offered one.
 - (b) Someone who is currently working but is about to leave the labor force.
 - (c) Someone who has a part time job but wants a full time job
 - (d) Someone who is working less than 5 hours per week.

Short-answer and problem-solving questions: Provide written answers to each question in the space provided.

26. (5 points) Suppose an economy produces automobiles and planes according the following production possibilities table:

Production Choice	Automobiles	Planes
A	200	0
B	180	5
C	140	10
D	80	15
E	0	20

Compute the opportunity cost of producing a plane at each level in the table. Does plane production exhibit increasing, decreasing, or constant opportunity cost?

27. (5 points) Suppose a government gives tax rebates to people who buy fuel-efficient compact cars. Describe and illustrate the impact on the equilibrium price and quantity for trucks and SUVs (which are larger and less fuel-efficient).

28. (5 points) The difficult recession in 2007-2009 and beyond led to Christmas tree farmers to hold off on planting Christmas trees (it takes approximately 10-12 years to grow a typical-sized Christmas tree - and true story). In 2020, more people decided they preferred real Christmas trees over fake trees. Describe and illustrate the impact on the equilibrium price and quantity for real Christmas trees in 2020.

29. (5 points) Suppose improved automation manufacturing techniques make it faster and less costly to produce automobiles. Suppose at the same time, there is a general improvement in the economy leading to widespread increases in incomes. Describe and illustrate the impact on the equilibrium price and quantity for automobiles.

30. (5 points) Suppose interest rates decrease in Brazil and Argentina, but the decrease is smaller in Argentina. Describe and illustrate the impact on the Brazilian *Real* (BRL) to Argentine Peso (ARS) exchange rate.
31. (5 points) Suppose 1 USD (U.S. Dollar) trades for 144 JPY (Japanese Yen). Suppose an Uber ride costs 3200 JPY in Japan. Compute the price of the ride in U.S. dollars.

32. (5 points) The United States and Mexico are major trading partners. Suppose incomes increase in Mexico and there is no change in incomes in the United States. Describe and illustrate the impact on the Mexican Peso (MXN) to U.S. Dollar (USD) exchange rate.

33. (5 points) Suppose an economy produces only hats and shirts and experiences the following quantities and prices:
For hats in 2022: Price = \$18, Qty = 19
For shirts in 2022: Price = \$16 Qty = 26
For hats in 2023: Price = \$19, Qty = 20
For shirts in 2023: Price = \$17 Qty = 27
Use 2022 as a base year and compute the GDP deflator for both 2022 and 2023 and the inflation rate from 2022 to 2023.

34. (5 points) Suppose an economy has a working-age population of size 10000 with the following characteristics:

- 1400 retired
- 4700 employed full time
- 900 employed part time
- 700 employed part time, but who need full time work
- 300 people not working and looking for a job
- 1100 people not working, going to school full time instead of looking for work
- 900 people recently laid off, but not looking for work because they think no jobs are available

Compute the labor force participation rate.

35. (5 points) Suppose an economy has a working-age population of size 10000 with the following characteristics:

- 2100 retired
- 4700 employed full time
- 1200 employed part time
- 300 employed part time, but who need full time work
- 200 people not working and looking for a job
- 1200 people not working, going to school full time instead of looking for work
- 300 people recently laid off, but not looking for work because they think no jobs are available

Compute the unemployment rate.