ECON 101

Midterm Review Session

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Introduction to Economics

- Key Concepts:
  - **Economics** is the social science that studies the choices that individuals, businesses, governments, and entire societies make as they cope with scarcity.
  - **Microeconomics** is the study of choices that individuals and businesses make, the way those choices interact in markets, and the influence of governments.
  - **The economic way of thinking** is defined by concepts such as **tradeoff, rational choice, benefit, opportunity cost, marginal benefit and marginal cost**.
  - **Production possibilities frontier** (PPF) is the boundary between the combinations of goods and services that can be produced and that cannot.

Introduction to Economics

- **Allocative efficiency** is achieved when we cannot produce more of any one good without giving up some other good that provides greater benefit.
- A person has a **comparative advantage** in an activity if that person can perform the activity at a lower opportunity cost than anyone else.
- A person has an **absolute advantage** if that person is more productive than others.

Introduction to Economics

Assume that Anju and Zain both produce cakes and pies. Anju can produce a maximum of 40 cakes, or 25 pies per hour. Meanwhile, Zain can produce a maximum of 50 cakes, or 40 pies per hour.

a. Who has an absolute advantage in cake production?
b. Who has an absolute advantage in pie production?
c. Who has a comparative advantage in cake production?
d. Who has a comparative advantage in pie production?
e. How can both benefit from trade?

Answer

a. Who has an absolute advantage in cake production?
   Zain
b. Who has an absolute advantage in pie production?
   Zain
c. Who has a comparative advantage in cake production?
   Anju
d. Who has a comparative advantage in pie production?
   Zain
e. How can both benefit from trade?
   If, for example, Anju produce 40 cakes and Zain produce 40 pies, they can trade 20 pies for 28 cakes and at the end of the transaction Zain will have 28 cakes and 20 pies and Anju will have 12 cakes and 20 pies, which is outside their PPF.

Introduction to Economics

What is the effect of technological improvements for the PPF of a country? How can that induce economic growth?

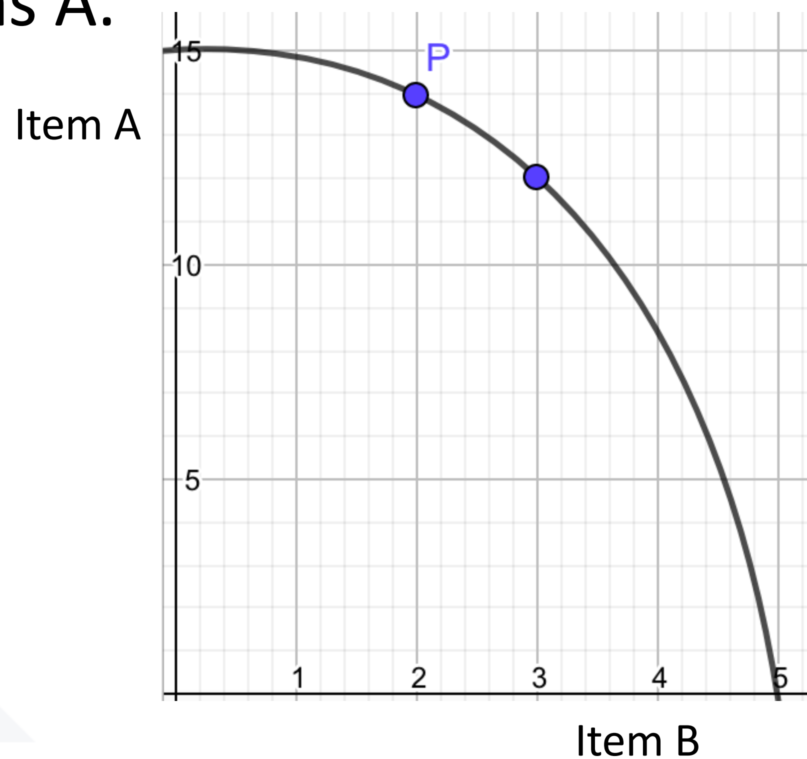
Answer

What is the effect of technological improvements for the PPF of a country? How can that induce economic growth?

Technological improvements increases productivity of an economy shifting the PPF outward and inducing economic growth.

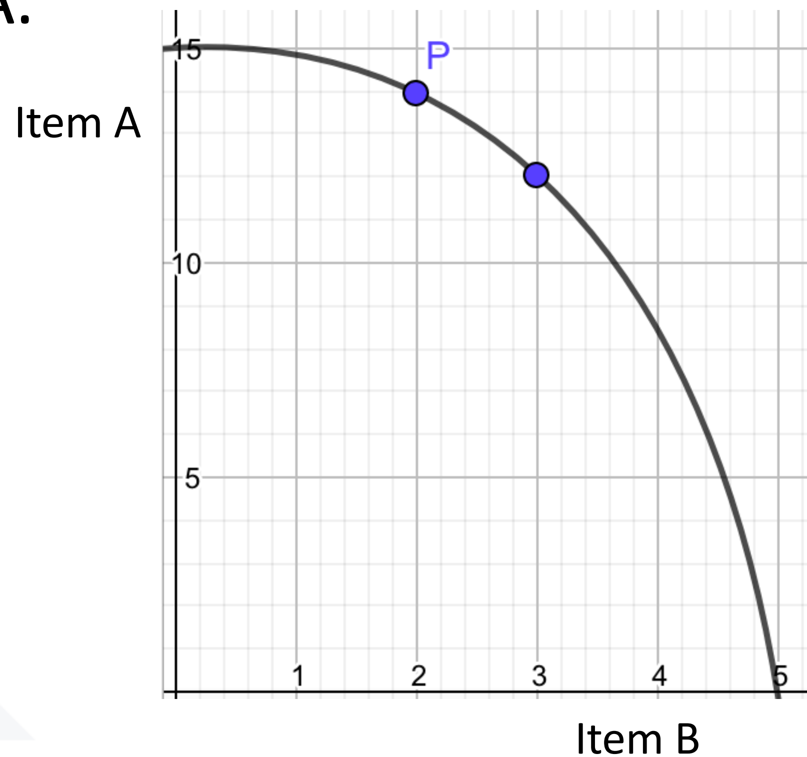
Introduction to Economics

Refer to the PPF graph bellow. At production point P, the opportunity cost of producing one more item B is__ items A.



Answer

Refer to the PPF graph bellow. At production point P, the opportunity cost of producing one more item B is 2 items A.



Demand and Supply

- Key Concepts:
  - **Quantity demanded** of a good or service is the amount that consumers plan to buy during a particular time period, and at a particular price.
  - **Law of demand:** Other things remaining the same, the higher the price of a good, the smaller is the quantity demanded.
  - **Demand** refers to the entire relationship between the price of the good and quantity demanded of the good.
  - **Changes in demand** can be caused by changes in **prices of related goods, expected future prices, income, expected future income, population, preferences.**

Demand and Supply

- **Quantity supplied** of a good or service is the amount that producers plan to sell during a given time period at a particular price.
- **Law of supply:** Other things remaining the same, the higher the price of a good, the greater is the quantity supplied.
- **Supply** refers to the entire relationship between the quantity supplied and the price of a good
- **Changes in supply** can be caused by changes in **prices of factors of production, prices of related goods, expected future prices, number of suppliers, technology, state of nature**.

Demand and Supply

- **Equilibrium price** is the price at which the quantity demanded equals the quantity supplied and **equilibrium quantity** is the quantity bought and sold at the equilibrium price.

Demand and Supply

1. Assume that rice crackers and potato chips are substitutes. They also require the same production resources. One day, the demand for potato chips suddenly rises. What happens to the market of potato chips and rice crackers, referencing the Supply and Demand curve action.
2. If polyester is an inferior good, and household income goes up, what happens in a Supply/Demand graph for polyester?

Answer

1. Assume that rice crackers and potato chips are substitutes. They also require the same production resources. One day, the demand for potato chips suddenly rises. What happens to the market of potato chips and rice crackers, referencing the Supply and Demand curve action.

   Equilibrium price and quantity of potato chips rise because of the rise of demand.

   Equilibrium quantity of rice crackers decreases because of decrease in demand due to the fact that it's a substitute good and decrease in supply due to the fact that they require the same resources.

Answer

2. If polyester is an inferior good, and household income goes up, what happens in a Supply/Demand graph for polyester?

Demand decreases (demand curve shifts left)

Elasticity

- Key Concepts:
  - $\boldsymbol{Price\ elasticity\ of\ demand}=(\boldsymbol{Percentage\ change\ in\ quantity\ demanded})/(\boldsymbol{Percentage\ change\ in\ price})$
  - $\boldsymbol{Elasticity\ of\ supply}=(\boldsymbol{Percentage\ change\ in\ quantity\ supplied})/(\boldsymbol{Percentage\ change\ in\ price})$
  - Price elasticity of demand and elasticity of supply can be **perfect inelastic, inelastic, unit elastic, elastic, perfectly elastic.**

Elasticity

- $Income\ elasticity\ of\ demand = (Percentage\ change\ in\ quantity\ demanded)/(Percentage\ change\ in\ income)$
- $Cross\ elasticity\ of\ demand = (Percentage\ change\ in\ quantity\ demanded)/(Percentage\ change\ in\ price\ of\ a\ substitute\ or\ complement)$

Elasticity

Given the following equation, calculate the price elasticity of demand for donuts from QD=5 to QD=10. Based on these curves, do donuts have an elastic or inelastic demand?

Demand Equation: $p = 30 - 3q$
Supply Equation: $p = 2 + 2q$

Also find the equilibrium quantity and equilibrium price.

Answer

Given the following equation, calculate the price elasticity of demand for donuts from QD=5 to QD=10. Based on these curves, do donuts have an elastic or inelastic demand? Unit elastic

Demand Equation: $p = 30 - 3q$
Supply Equation: $p = 2 + 2q$

Also find the equilibrium quantity and equilibrium price. 5.6 and 13.2

Elasticity

A decrease in price of cookies will decrease the revenue for producers if the demand for cookies is _______________(elastic/inelastic)

Answer

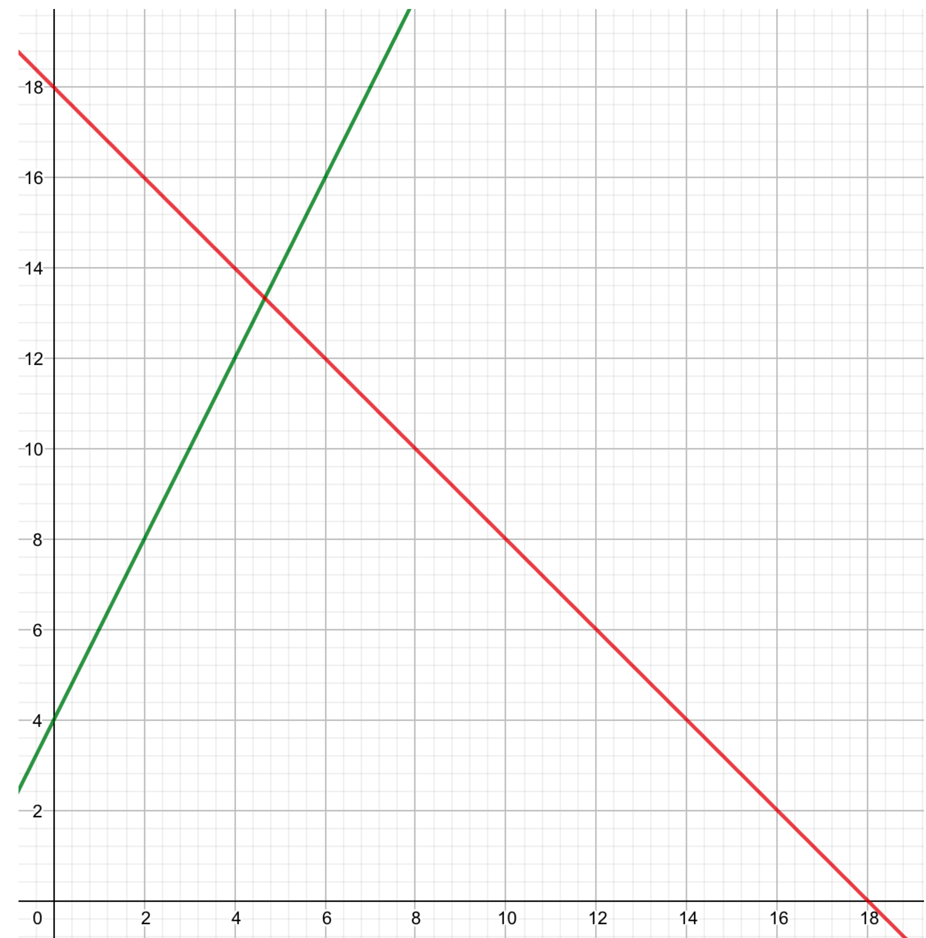
A decrease in price of cookies will decrease the revenue for producers if the demand for cookies is elastic

Government Actions in Markets

- Key Concepts:
  - **Consumer surplus** is the excess of the benefit received from a good over the amount paid for it.
  - **Producer surplus** is the excess of the amount received from the sale of a good over the cost of producing it.

Government Actions in Markets

Assume that there is an implementation of a minimum wage of $10. Find the number of unemployed hours based on the following supply and demand curves.



Answer

Assume that there is an implementation of a minimum wage of $10. Find the number of unemployed hours based on the following supply and demand curves.

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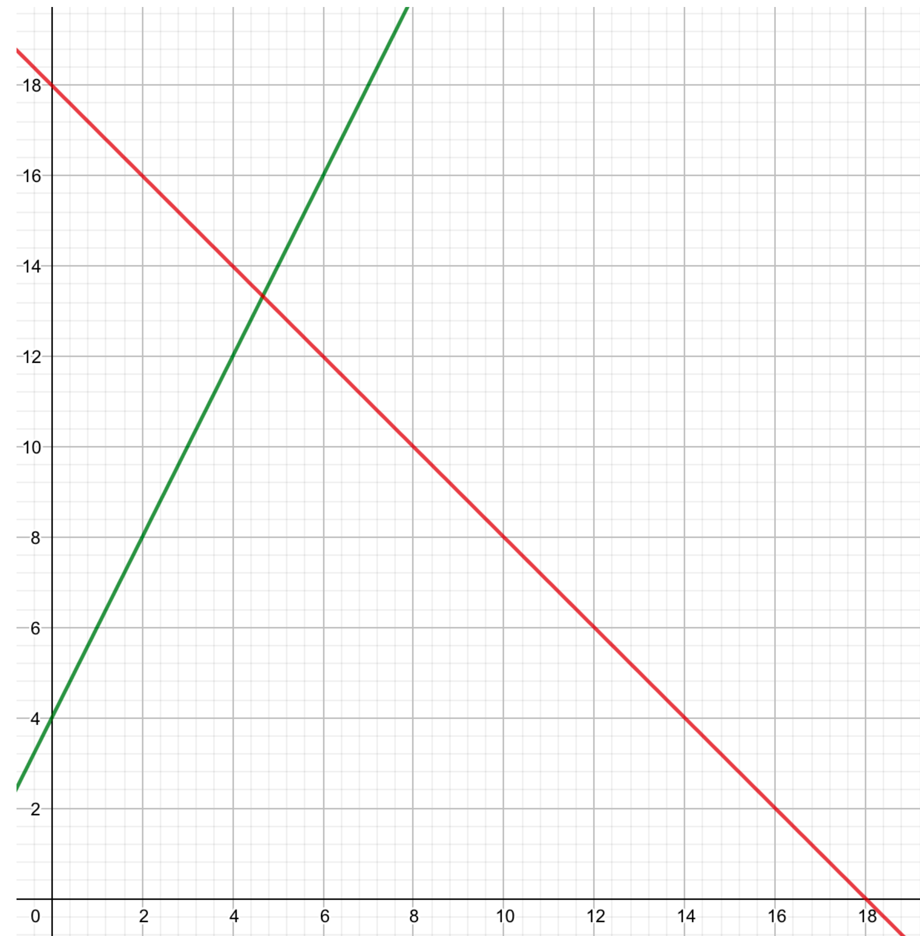
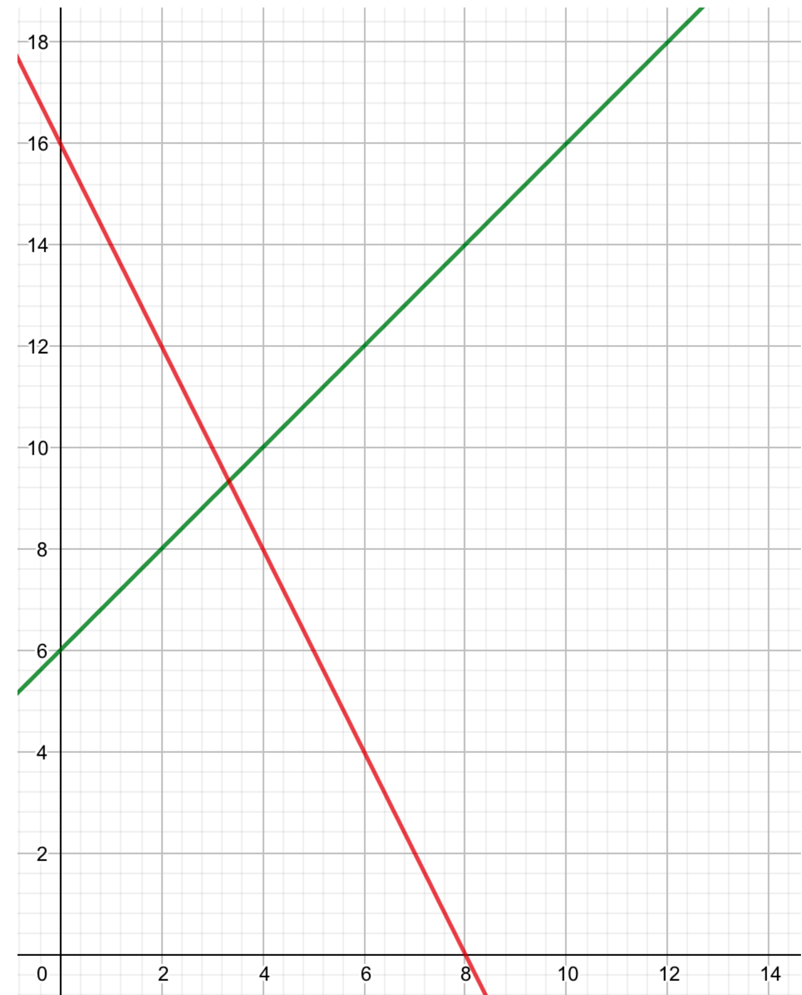


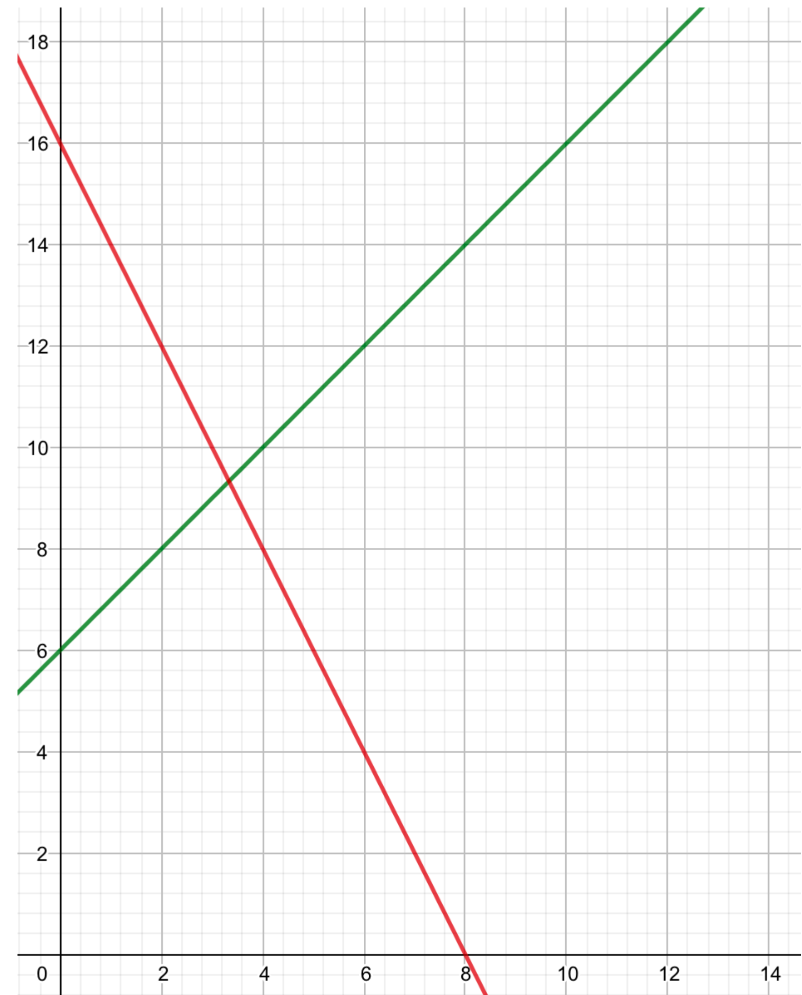
Government Actions in Markets

The government decides to create a subsidy for the market on rice. For every production of 4 lbs, there is a subsidy of $2. Calculate the VALUE received by suppliers and the price paid by consumers based on the following supply and demand curves.



Answer

There is a subsidy of $0.50 per 1 lbs. We should shift the supply curve $0.50 downwards getting an equilibrium at q = 3.5 and p = 9. Therefore, consumers will pay $9 and suppliers will receive q*0.5 = 3.5*0.5 = 1.75.



QUESTIONS?

MORE EXERCISES!!!

Exercises

If sandwich and orange juice are complementary goods, what are the effects of an increase in price of orange juice on sandwich's demand curve, supply curve, equilibrium quantity and equilibrium price?

Answer

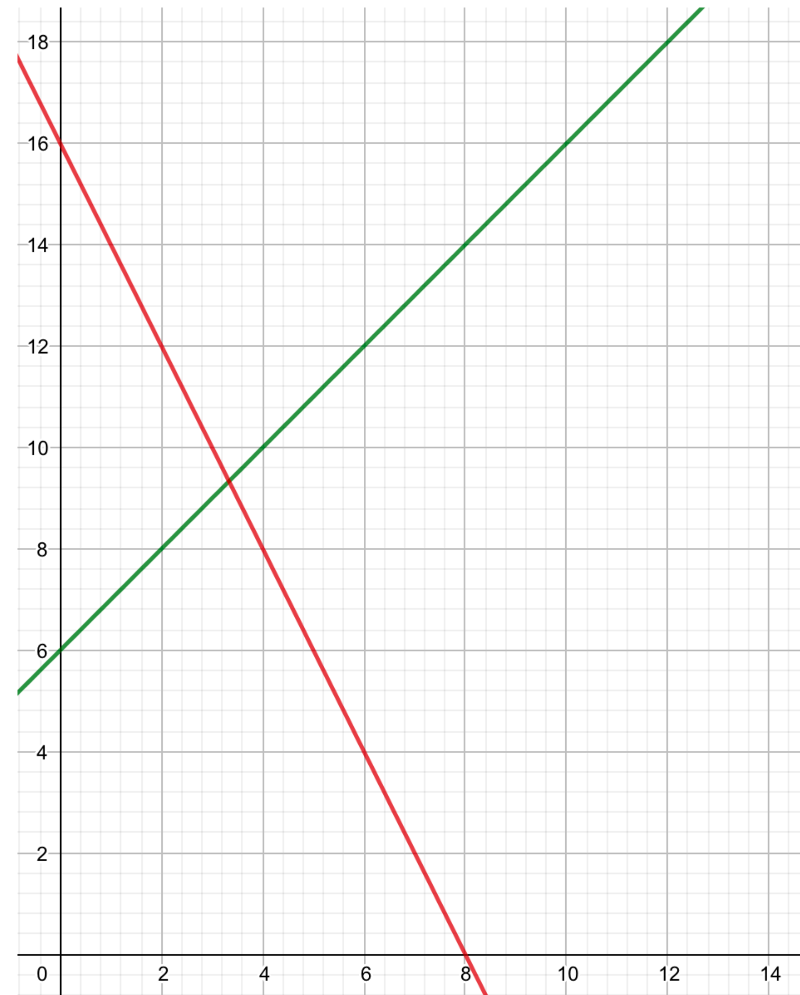
If sandwich and orange juice are complementary goods, what are the effects of an increase in price of orange juice on sandwich's demand curve, supply curve, equilibrium quantity and equilibrium price?

An increase in price of orange juice would decrease the demand of sandwich (shift downward), decrease price and quantity produced.

Exercises

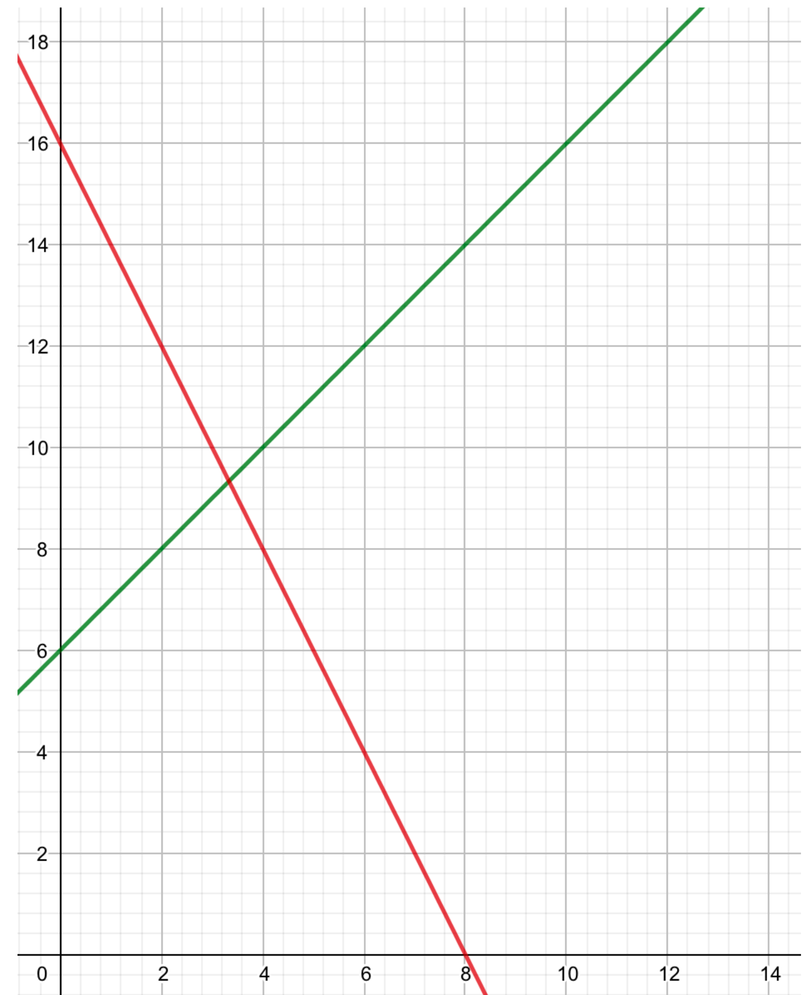
The government decides to create a tax for the market on rice. For every production of 4 lbs, there is a tax of $2 ON SELLERS. Calculate the TAX PAYED ~~price received~~ by suppliers and the price paid by consumers based on the following supply and demand curves.

Analyze the effect of taxes on consumer surplus and producer surplus.



Answer

There is a subsidy of $0.50 per 1 lbs. We should shift the supply curve $0.50 upwards getting an equilibrium at q = 3.17 and p = 9.67. Therefore, suppliers will pay q*0.5 = 3.17*0.5 = 1.58 and consumers will pay $9.67.



Exercises

Assume a company have the following demand curve for one of its products. What is the quantity and price that would maximize the company's revenue?

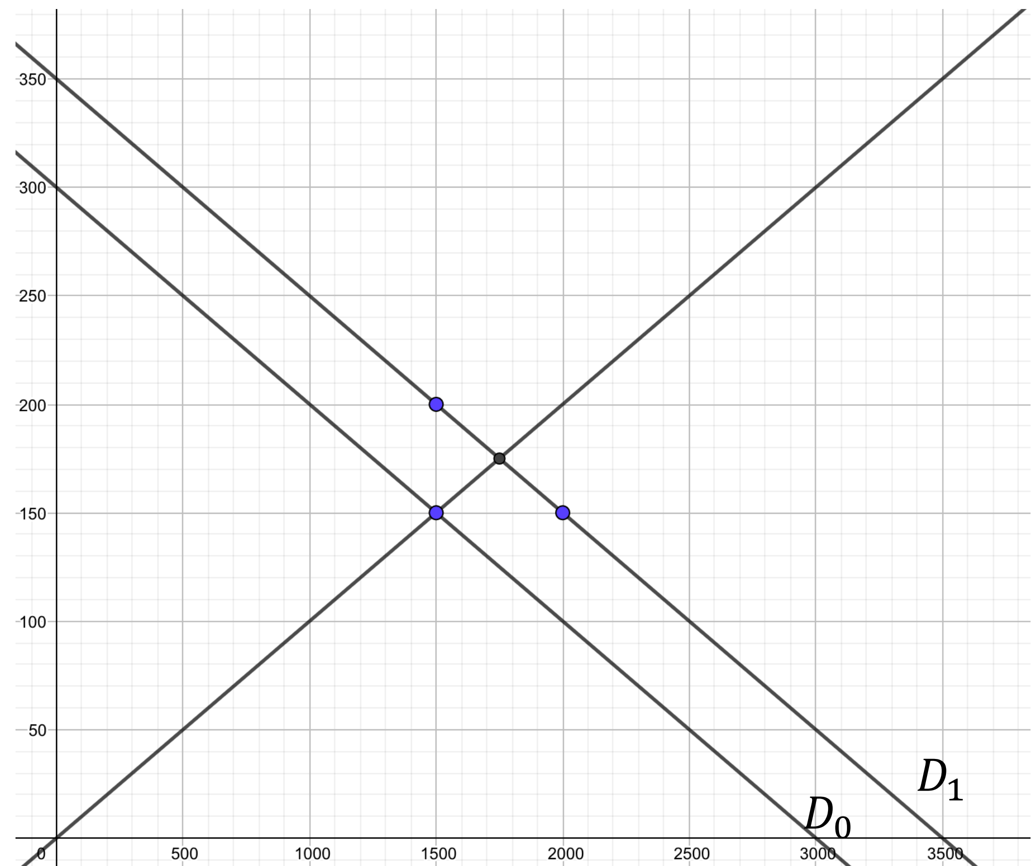
Answer

Assume a company have the following demand curve for one of its products. What is the quantity and price that would maximize the company's revenue?

p = 45 and q = 350

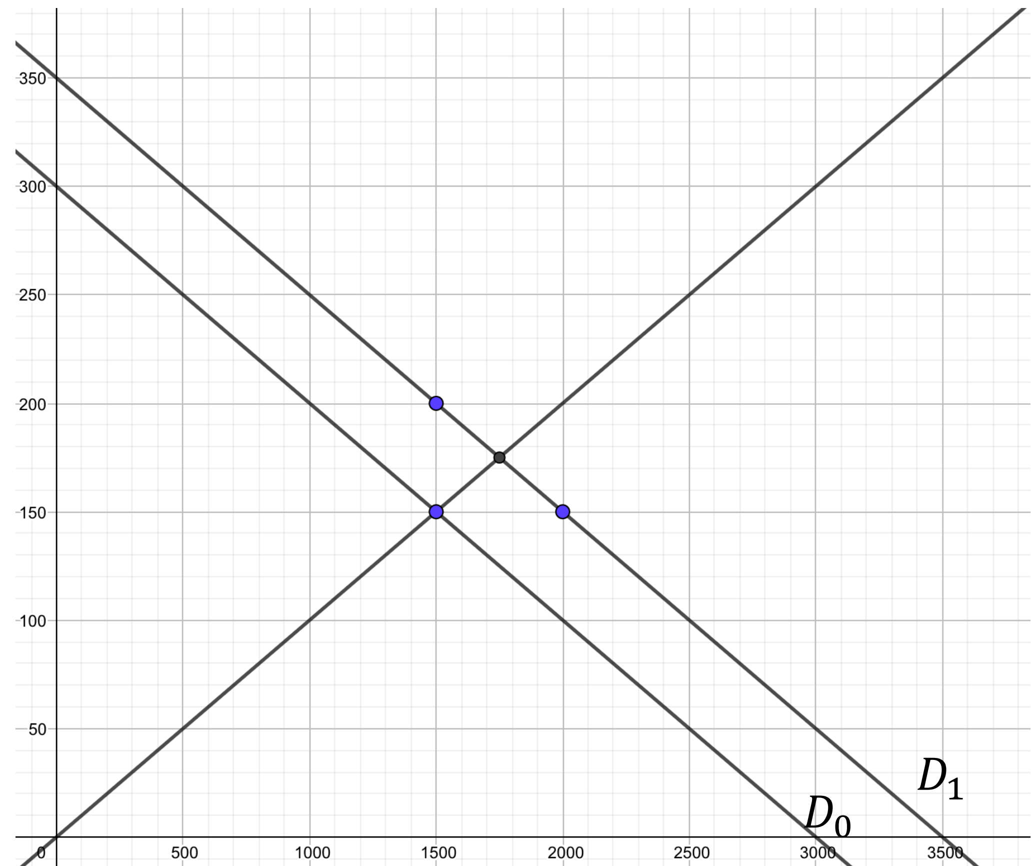
Exercises

Suppose the demand for rental housing is shown by demand curve D_1, and there is a rent ceiling of $150 per room. How much is expected to be expended on search activity?



Answer

Suppose the demand for rental housing is shown by demand curve D_1, and there is a rent ceiling of $150 per room. How much is expected to be expended on search activity? 50*1500 = $75,000



Exercises

If the price elasticity of demand of a good is 1.5, 6% increase in price will result in how much increase in quantity demanded?

Answer

If the price elasticity of demand of a good is 1.5, 6% increase in price will result in how much increase in quantity demanded?

$$\frac{\Delta Q\%}{\Delta p\%} = 1.5 \Rightarrow \frac{\Delta Q\%}{6\%} = 1.5 \Rightarrow \Delta Q\% = 1.5 * 6\% = 9\%$$

Exercises

What happens with the price of gas if the supply of gas decreases?

Exercises

What happens with the price of gas if the supply of gas decreases?

What if the government doesn’t let gas stations increase the price?

Answer

What happens with the price of gas if the supply of gas decreases?

Price increases

What if the government doesn't let gas stations increase the price?

It will cause excess demand that will cause longlines at gas stations and longer time spent by customers on search activity.

Exercises

When the price of good A rises, ~~supply~~ DEMAND curve of good B shifts rightward. What can we say about the relationship between goods A and B?

Answer

When the price of good A rises, supply curve of good B shifts rightward. What can we say about the relationship between goods A and B?

They are substitute goods