Microeconomics Unit 2 Study Guide
Supply and Demand

Topic 2.1- Demand ▶

1. What is the law of demand?
There is an Inverse relationship between Price and quantity demanded

P↑ Qd __↓_
P↓ Qd __↑_

2. Why is the market demand curve downward sloping?
Buyers (consumers) are willing to buy more units when the price falls and less units when the price increases.

3. What are the five shifters of demand?
Tastes and preferences, number of consumers, price of related goods (Substitutes and complements), income, future expectations

4. Goods A and B are substitutes. An increase in the price of A will cause the demand for B to _increase_.

5. Goods X and Y are complements. A decrease in the price of X will cause the demand for Y to _increase_.

6. Good N is a normal good. A decrease in income will cause the demand for N to _decrease_.

7. Good R is an inferior good. A decrease in income will cause the demand for R to _increase_.

Topic 2.2- Supply ▶

1. What is the law of supply?
There is a direct relationship between price and quantity supplied

P↑ Qs _↑__
P↓ Qs _↓__

2. Why is the market supply curve upward-sloping?
Higher prices give profit-seeking firms an incentive to produce more output

3. What are the five shifters of supply?
Prices of resources, number of producers, technology, government action (taxes, subsidies, regulations), expectations of future profit

Topic 2.4- Price Elasticity of Supply (PES) ▶

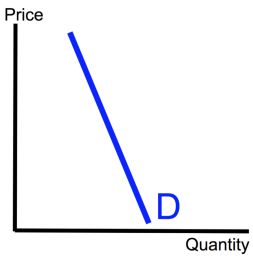
1. Identify the price elasticity of supply coefficient equation

$$\frac{\text{Percent change in quantity supplied}}{\text{Percent change in price}}$$

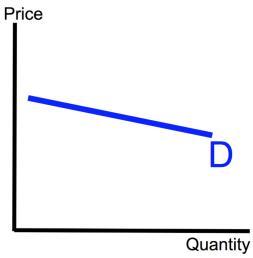
2. List 3 characteristics of goods with relatively inelastic supply. The market has high barriers to entry (few firms), high price of alternative inputs, difficult or time consuming to produce.

Topic 2.3- Price Elasticity of Demand (PED) ▶

Inelastic Demand



Elastic Demand



3. Identify the price elasticity of demand equation.

$$\frac{\text{Percent change in quantity demanded}}{\text{Percent change in price}}$$

Coefficient for perfectly inelastic demand = 0
Coefficient for inelastic demand = Less than 1
Coefficient for unit elastic demand = 1
Coefficient for elastic demand = Greater than 1
Coefficient for perfectly elastic demand = ∞

4. Use the total revenue test to fill in the blanks.

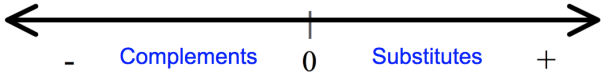
Inelastic Demand	Elastic Demand
Price ↑, TR _↑__	Price ↑, TR _↓__
Price ↓, TR _↓__	Price ↓, TR _↑__

Topic 2.5- Other Elasticities ▶

1. What is cross-price elasticity of demand (XED)? XED shows what happens to the quantity of one product when the price changes for a different product. It shows if two goods are substitutes or complements.

2. Identify the XED equation.

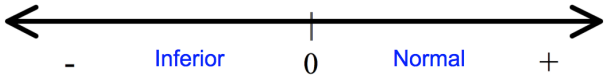
$$\frac{\text{Percent change in quantity of good A}}{\text{Percent change in price of good B}}$$



3. What is income elasticity of demand (YED)? YED shows what happens to the quantity of a product when there is a change in income. It shows if a good is normal or inferior.

4. Identify the YED equation.

$$\frac{\text{Percent change in quantity}}{\text{Percent change in income}}$$



5. List 3 characteristics of goods with relatively inelastic demand. Goods with inelastic demand are necessities, have few substitutes, and have an elasticity coefficient less than 1.

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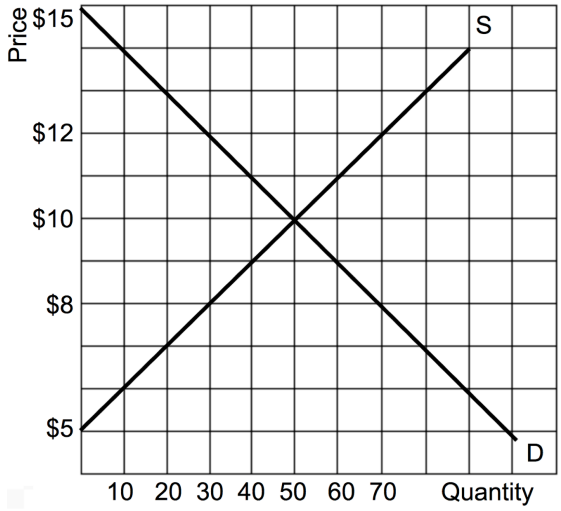
Topic 2.6- Equilibrium and Consumer and Producer Surplus ▶



1. Define consumer surplus (CS). Difference between how much buyers are willing to pay and the price they do pay

2. Define producer surplus (PS). Difference between the price and how much the seller is willing to sell the product for

3. Define deadweight loss (DWL). Lost efficiency when the optimal quantity is not being produced

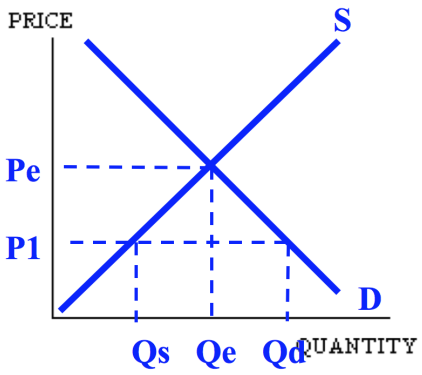
4. Calculate the CS at the equilibrium price. Show your work. $125 = ($15-$10) x 50/2

5. Calculate the CS if the price was $12. Show your work. $45 = ($15-$12) x 30/2

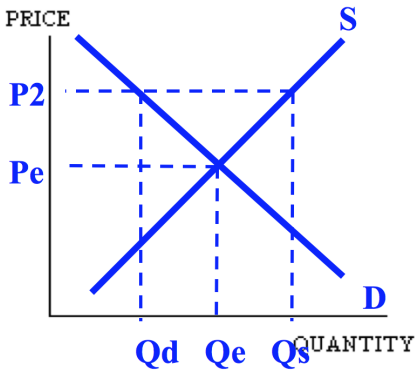
6. Calculate the deadweight loss if the market produced only 20 units. $90 = ($13-$7) x 30/2

Topic 2.7- Market Disequilibrium and Changes in Equilibrium ▶

Graph #1



Graph #2

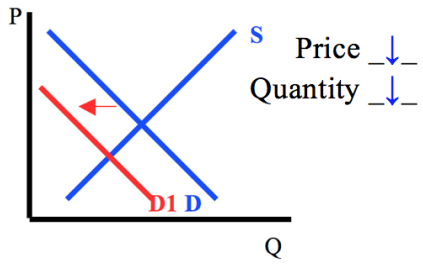


1. Draw a shortage on Graph #1. Label price (P1), quantity supplied (Qs), and quantity demanded (Qd). Shade in CS, PS, and DWL.

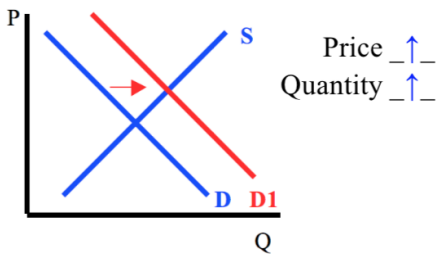
2. Draw a surplus on Graph #2. Label price (P2), quantity supplied (Qs), and quantity demanded (Qd). Shade in CS, PS, and DWL.

3. What is the difference between a change in demand and a change in quantity demanded?
A change in demand is when the entire demand curve shifts. A change in quantity demanded is movement along the curve.

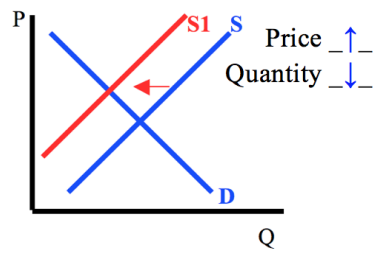
4. Draw a demand decrease



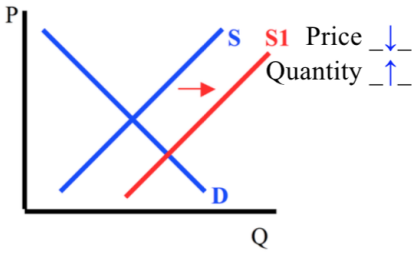
5. Draw a demand increase



6. Draw a supply decrease

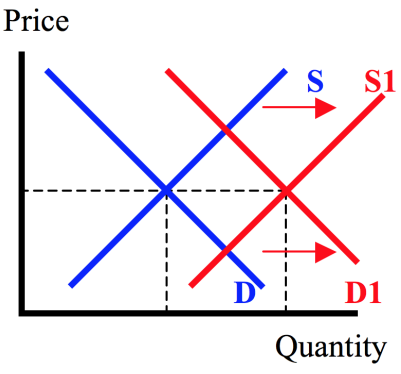


7. Draw a supply increase



8. What is the double shift rule? ▶
If two curves shift at the same time, EITHER price or quantity will be indeterminate.

9. Draw an increase in demand AND an increase in supply. What happens to the equilibrium price and quantity?
Price indeterminate, quantity increase



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Topic 2.8- Government Intervention ▶

1. What is a price ceiling? Legal cap on prices designed to keep prices artificially low.

2. What is a price floor? Minimum legal price sellers can sell a product.

3. A binding price ceiling must go __below____ equilibrium and results in a ___shortage____. A binding price floor must go ___above____ equilibrium.

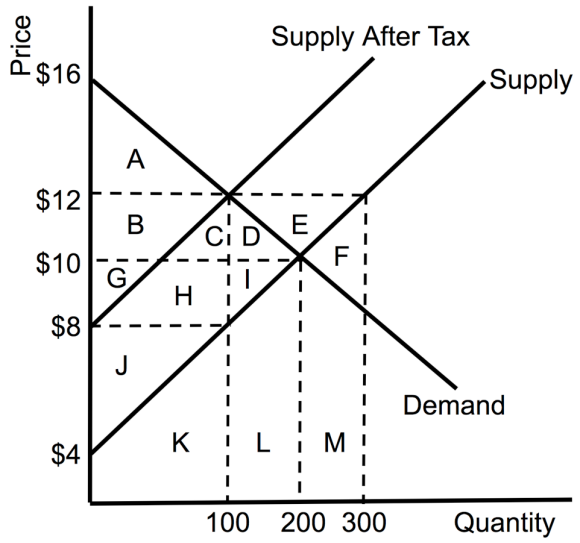
4. What is a subsidy? A government payment to producers designed to encourage them to produce more output.

Complete the following assuming the equilibrium price is $10

5. Identify the consumer surplus (CS) ABCD
6. Identify the producer surplus (PS) GHIJ
7. Identify the CS if a price ceiling is placed at $12 ABCD (no change since the ceiling isn't binding)
8. Identify the CS if a price floor is placed at $12 A (price floor is at $12 is binding)

Identify the following after the tax is imposed ▶

9. The tax per unit $4 per unit
10. CS after tax A
11. PS after tax J
12. Deadweight loss DI
13. Total tax revenue BCGH ($400)
14. Total spending by buyers BCGHJK ($1200)
15. Total revenue to sellers JK ($800)
16. Total amount of tax buyers pay BC ($200)
17. Total amount of tax sellers pay GH ($200)
18. Is the demand curve between $12 and $10 elastic, inelastic, or unit elastic? Explain. Relatively elastic because the price decreased and the total revenue increased.
19. Calculate the elasticity of supply coefficient as price increases from $10 to $12. Show your work. +2.5 = 50%/20%



Identify if buyers or sellers pay more of a tax in the following situations.

20. Demand is more inelastic than supply. Buyers pay more of the tax
21. Demand and supply have the same elasticity. Buyers and sellers share the tax equally
22. Supply is more inelastic than demand. Sellers pay more of the tax

Topics 2.9- International Trade and Public Policy ▶

Calculate the following at the equilibrium price.

1. Consumer surplus ABC = $300 = ($10 x 60)/2
2. Producer surplus EFKMU = $240
3. Total surplus ABCEFKMU= $540

Calculate the following if this country buys rice from other countries at the world price of $5. Show your work.

4. Quantity produced domestically 30 units
5. Quantity imported 60 units = (90 – 30)
6. Consumer surplus ABCEFGJKMNQRT
7. Producer surplus U

Identify the following if the government places a tariff of $1 on foreign rice. Show your work.

8. Consumer surplus ABCEFGJ
9. Tariff revenue QR = $40 ($1 x 40 units)
10. Deadweight loss NT

The graph below shows the domestic market for rice.