

# Demand Review

Economics

Klein Oak High School

Nelson

## Define the following

- Substitutes
- Complements
- Independent goods
- Marginal utility
- Substitution effect
- Income effect



Substitutes – things that are used instead of one another

Complements – things that are used together

Independent goods – neither substitutes nor complements

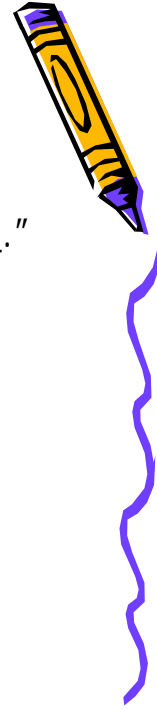
Marginal utility – the extra usefulness from using one more unit of a good

Substitution effect – the effect on quantity demanded caused by people substituting away from a good whose price has increased, and vice versa

Income effect – the effect on quantity demanded caused by a reduction in disposable income as a result of an increase in the price of a product, or an increase in disposable income as a result of a decrease in the price of a product.

# Substitution

- "There are substitutes for \_\_\_\_\_."



everything

## Law of Demand

- What is the relationship between price and quantity demanded?
- If price goes up, quantity demanded goes \_\_\_\_\_.
- If price goes down, quantity demanded goes \_\_\_\_\_.



price and quantity demanded vary inversely  
down  
up

## Apply the law of demand

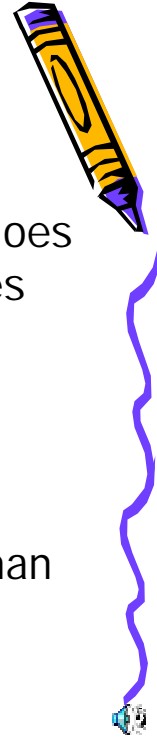
- If Coach Dibble schedules extra practices for the rest of the season we could reasonably expect that the number of players in the program would \_\_\_\_\_.



decrease

## Demand vs. Quantity Demanded

- If the price of widgets changes, does demand for widgets change or does the quantity demanded of widgets change?
- Remember that it might be the opportunity cost of acquiring something that changes, rather than just the price.

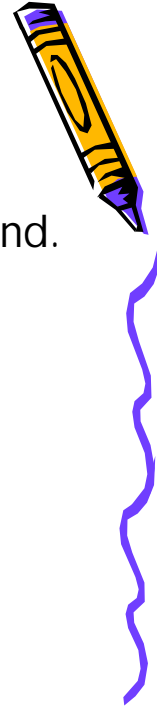


the quantity demanded changes

[A change in the price of good A always changes the quantity demanded of good A, not the demand for good A. However, it will also change the demand for substitute good B and complementary good C. So, for example, an increase in the price of coffee will decrease the quantity demanded of coffee. It will also increase the demand for tea and decrease the demand for Coffee Mate.]

## Determinants of Demand

- List the six determinants of demand.



1. a change in the price of substitutes
2. a change in the price of complements
3. a change in consumer income
4. a change in population
5. a change in consumer tastes
6. a change in consumer expectations

## Determinants of Demand Elasticity

- Substitutability (*e.g.* insulin)
- Percentage of income spent on the product (*e.g.* salt)
- Durability (must it be replaced or may it be reused?)
- Is it considered a luxury or necessity?



- Luxuries = elastic

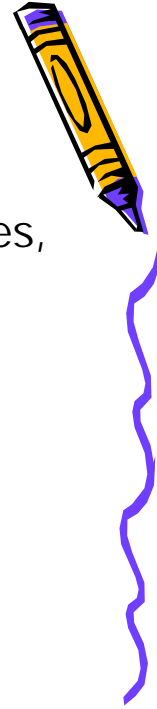
- "necessities" = inelastic





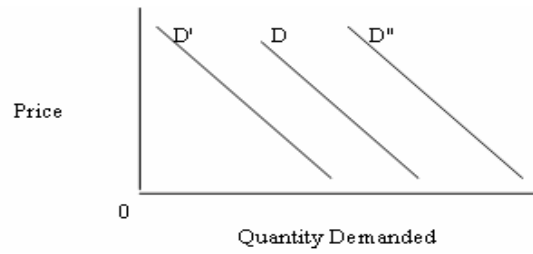
## Applications of determinants

- Changing the number of substitutes, for example, changes \_\_\_\_\_.
- Changing the price of substitutes, however, changes \_\_\_\_\_.



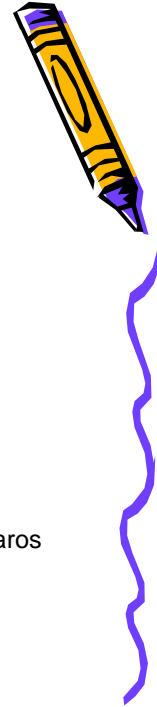
elasticity of demand  
demand

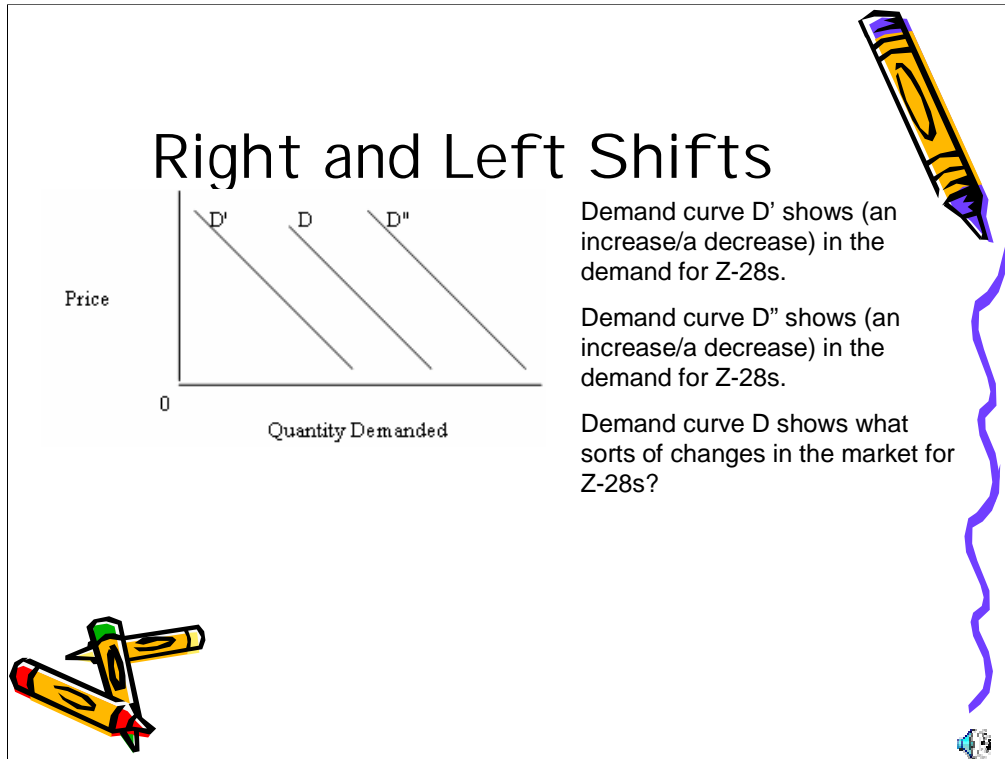
# Shifting Demand for Z-28s



Consider  $D$  to be the original demand curve for Chevy Camaros Z-28s.

Use this information for the slides that follow.



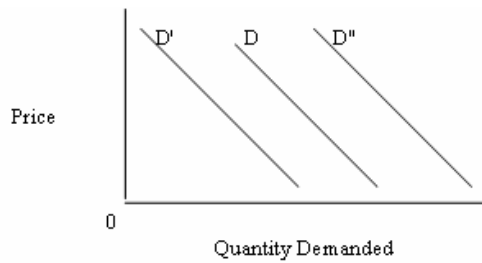


decrease (the curve is shifting leftward, toward the origin – 0 on the quantity axis)

increase (the curve is shifting rightward, away from the origin – 0 on the quantity axis)

only changes in quantity demanded – there can't be a demand change unless the curve shifts

## Cause and Effect

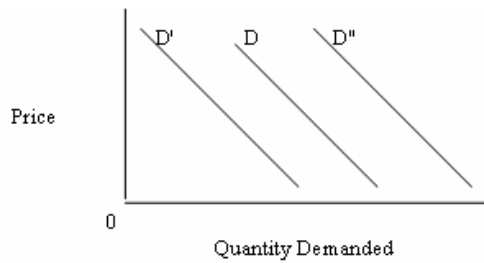


- Which demand curve shows the result of an increase in the price of Mustang GTs?
- Which demand curve shows the result of an increase in the price of gasoline.

D'' shows the effect on the market for Z-28s of an increase in the price of substitute Mustang GTs

D' shows the effect on the market for Z-28s of an increase in the price of complementary gasoline

## Cause and Effect



- Which demand curve shows the result an increase in the price of Z-28s? (be careful!!)



The original demand curve D is used to show a change in the price of Z-28s themselves – This is a movement along the line, rather than a shift in the line.

## Total Receipts Test

- If the price of Klein Oak parking permits increases from \$1 to \$50, and total receipts go up, then demand between \$1 and \$50 is (elastic/inelastic/unit elastic).



inelastic

If total receipts increase after a price increase, then the quantity demanded did not go down by a larger percentage than the price went up. That's what we mean by inelastic demand.

The rule is this. If price and total receipts change in the same direction, then demand is inelastic.

# Durability

- Which of the following products is least durable?
  - Cereal
  - Cars
  - Computers
  - Washing machines

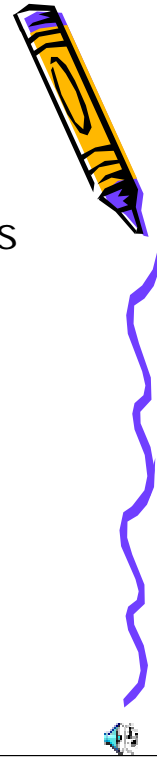


cereal

By durability we mean whether the product can be reused or repaired.

## Change in the price of substitutes

- If the price of Gateway computers increases, we would expect the demand for Dell computers to (increase/decrease/remain the same).



increase

These two products are substitutes for one another.



## Gasoline

- The demand for gasoline is inelastic, probably due **mostly** to the fact that
  - There are few close substitutes.
  - It's a small budget item.
  - It's not durable.
  - It's considered a necessity.



There are few close substitutes.

There's nothing else you can burn in your car's engine, and the substitutes for car-driving tend to be viewed as pretty extreme by most American consumers.

## Elasticity Coefficients

- The quantity demanded of wombles is 150 at a price of \$5 and 200 at a price of \$3.
- What is the coefficient for the elasticity of demand for wombles between \$3 and \$5?



0.57

The percentage change in quantity demanded is  $200-150/(200+150)\div 2 = 50/175 = 0.29$

The percentage change in price is  $5-3/(5+3)\div 2 = 2/4 = 0.5$

The elasticity of demand, therefore is  $0.29/0.5 = 0.57$

## Elasticity of Demand

- What effect do you suppose e-mail has had on the elasticity of demand for first class postage stamps?
- Do you think the price of postage stamps is higher or lower as a result of the introduction of e-mail?

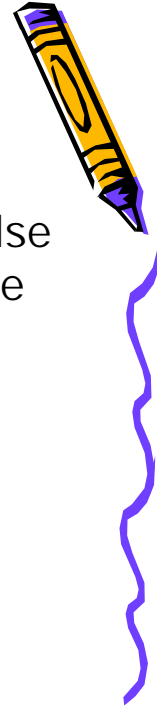


E-mail increased the elasticity of demand for first class postage stamps by creating a really good substitute.

The price of postage stamps should be lower as a result of the introduction of e-mail because the greater elasticity creates pressure on the postal service to keep prices lower. [Note: This does not mean that the price of stamps has declined since the advent of e-mail, but merely that the price would be even higher today if it weren't for the competition from e-mail.]

# Taxation

- Should governments, everything else being equal, tax products that have elastic demand or those that have inelastic demand?



inelastic demand

Taxes placed on inelastic items don't discourage buying as much. Therefore the government earns more revenue from the tax and the companies that make the product aren't hurt as much by lower sales.

## Analysis

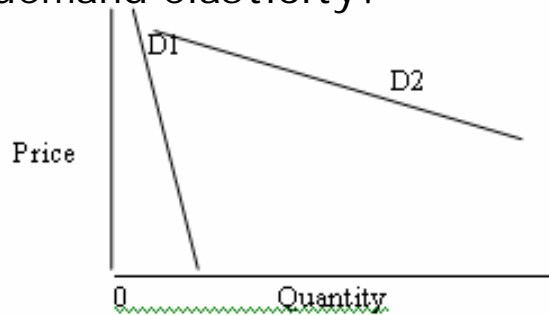
- Despite higher ticket prices, Reliant Stadium is full while the Astrodome was empty in the Oilers farewell season. The most likely explanation is that
  - Demand is greater.
  - Demand is inelastic.
  - Demand is elastic.
  - The NFL violates the law of demand.

demand is greater

If sales are higher at a higher price, demand has increased.

## Graphing Elasticity

- Which of the two lines on the graph below, D1 or D2, shows greater demand elasticity?



D2 shows more elastic demand. The flatter the line the greater the quantity change is, and that's what we mean by elastic demand.

## Coefficients of Demand Elasticity

- If a 10% increase in the price of rope results in a loss of 5% of rope sales, the coefficient for the elasticity of demand for rope is \_\_\_\_\_.



0.5

Elasticity is the percentage change in quantity demand (5) divided by the percentage change in price (10).  $5/10 = 0.5$

## Substitutes or Complements

- If an increase in the price of Hamburger Helper results in a decrease in the demand for ground beef, the two goods are
  - Substitutes?
  - Complements?
  - Independent?



complements

It must be that the two are used together – complements.