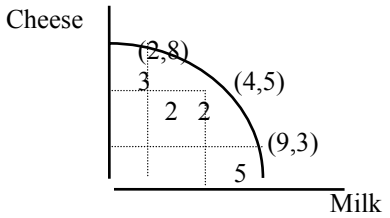
EXAM ONE REVIEW:

A. Central Concepts:

1) *Scarcity:* less of something available to you then you would wish at zero prices.
   Allocation of Scarce Resources: when you have less of something then you would want you need to figure out how to allocate
2) *Choice:* have to choose since resources are scarce.
   OPPORTUNITY COSTS (OC): are what of one thing you have to give up to get some of another.

B. Calculating Opportunity Costs

Determine the $Oc_{cheese} = \frac{\text{Loss in Milk}}{\text{Gain in Cheese}}$ **remember this should be in units of milk per cheese.



Be sure to know what could cause an increase in production (economic growth - # resources, technology, etc. and the corresponding change in the PPF).

Be sure to know the difference between constant and increasing OC (and why OC are increasing, intuitively).

Be sure to know the difference between obtainable, unobtainable, efficient, inefficient points on PPF

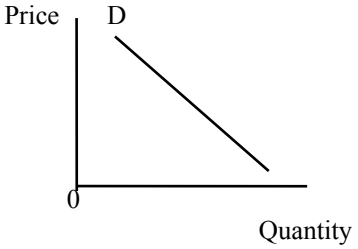
C. Trade: Values are subjective, Trade creates Value.

Have 2 Goods:
1. Given Resources
2. Given Technology
3. Fully Efficient Resource Use.

Gains From Trade: Be able to calculate and find a price ratio. Be able to find a "trade" that leaves BOTH parties outside their original PPFs.

Comparative Advantage: not necessarily absolute advantage. The ability to produce a good at a lower OC than others can produce it. RELATIVE EFFICIENCY is what matters, not absolute efficiency.

D. *Law Of Demand*:
1. Inverse Relationship → the higher priced the good the less people would be "willing to pay"
2. Other things equal (i.e. don't change anything but the parameter at hand, don't complicate this with and then or what ifs)



Quantity Demanded and Price are INVERSELY RELATED (Downward Sloping)

Demand Function= $Q^d_x = f_1[Price_x(\text{Income, Tastes, Prices of other goods (Subst./Comp), Other Things})]$

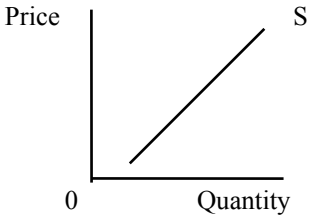
(this is the mathematical way of knowing what factors make up demand. $Price_x$ means the price of the good itself and it is outside the parenthesis since this affects ***quantity demanded***, while the factors inside the parenthesis affect **demand**.

E. *<u>"Law Of Supply":</u>*

→ there is a direct relationship, if prices are high there will be more supplied, if prices are low producers will supply less.

Supply Function = $Q^s_x = f_2[Price_x(\text{Technology, Factor Prices, Number of Firms, Price of Related goods other things})]$

(again for mathematical interpretation please see note with the demand function)



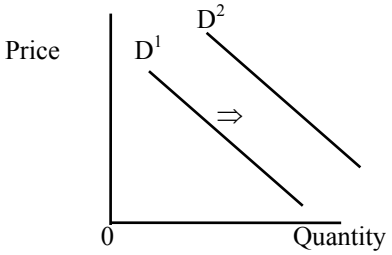
F. Market Equilibrium $Q^D = Q^S$

Market corresponds to stable market equilibrium

What causes demand and/or supply to shift? A change in one of the parameters.

→ INCREASE is a shift RIGHT.

→ DECREASE is a shift LEFT.



A demand shift to the RIGHT, implies that one of the factors (Income increased, Compliment Price decreased, Substitute Price increased, etc) → at any given price the consumer will want more.

KNOW: what the difference between a change in quantity demanded (result of a supply shift) and change in demand (actual demand shift). The same for supply:

Be able to understand the effects if both Supply and Demand change.

G. <u>Price Ceilings and Price Floors</u>:

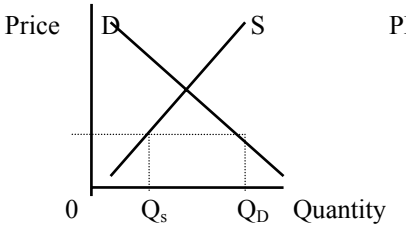
NOTE: Price Ceilings and Price Ceilings are IMPOSED, they cause a dis-equilibrium!

Shortages and surpluses may arise because producers incorrectly set the price. But will eventually converge to market value because of market power. As long as there are no legal restraints prices

set above or below market equilibrium will converge to the equilibrium. This market equilibrium would be stable.

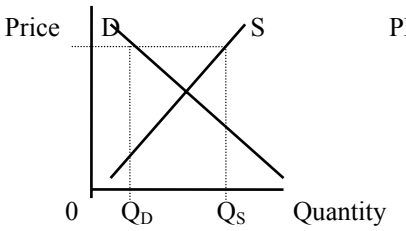
HOWEVER: If there are legal restraints: PRICE CEILINGS OR PRICE FLOORS the market cannot converge to equilibrium - there will be a shortage or surplus (respectively)

This is government interfering in a PRIVATE MARKET (keep in mind, we want gov't to interfere in a PUBLIC MARKET).



PRICE CEILING: → ***shortage*** because $Q_s < Q_D$

unfortunate consequence when you add restrictions



PRICE FLOORS: → ***SURPLUS:*** because $Q_S > Q_D$

H. <u>Price Elasticity of Demand:</u>

$$E_D = \frac{\text{\% Change in Quantity}}{\text{\% Change in Price}} = \frac{(QD_1 - QD_2)(P_1 + P_2)}{(P_1 - P_2)(QD_1 + QD_2)}$$

Total Revenue Test:
→ if Price and Total Revenue move in opposite directions then demand is ELASTIC!!
→ if Price and Total Revenue move is the same direction then demand is INELASTIC!!
→ if Price changes and total revenue does NOT then demand is UNITARY ELASTIC!!

If $E_D > 1$ elastic
If $E_D = 1$ unit elastic
If $E_D < 1$ inelastic

Determinants of Price Elasticity of Demand
1. Availability of Substitution
   → More Substitutes, the more elastic
2. Time
   → More Time, the more elastic
3. Proportion of income consumers spend on the good.
   → more (higher proportion of income) the more elastic
4. Luxury versus Necessity
   → Luxuries are elastic and Necessities are more inelastic

I. <u>Consumer Choice and The Theory of Demand</u>

<u>PRINCIPLE:</u> A person tries to ***maximize*** her ***utility*** by spending her ***income*** in the ***best way possible***.

BUDGET CONSTRAINT defines the maximum combinations of goods that are affordable to use given our income and the prices of the goods.

Relative Price ("Real price") or the Opportunity cost of good A = Price of A/Price of B

UTILITY is the satisfaction or happiness (or benefits) a person gets from consuming the good she buys.

TOTAL UTILITY (TU) is the sum of the marginal utilities; the total or overall utility from consuming many units of a good or different goods.

MARGINAL UTILITY (MU) is the **additional** utility one gets from consuming one more unit of a good.

$$MU = \frac{\Delta TU}{\Delta Q} = \frac{\text{change in total utility}}{\text{change in quantity}}$$

NOTE: We measure utility in "utils". A person's TU and MU from consuming a good depend only on the persons preferences, NOT ON PRICE!

Law of Diminishing Marginal Utility: the MU will decline as more of the item is consumed over any given period of time.

Definition: Marginal Utility per dollar $= \frac{\text{MU of good x}}{\text{Price of good x}}$

Consumer Equilibrium:

To maximize utility, a person should buy combinations of goods such that the marginal utility per dollar for the last unit of each good is the same (or as close as possible).

→ $\frac{MU_A}{P_A} = \frac{MU_B}{P_B} = \frac{MU_C}{P_C}$ and so on….

→ if $\frac{MU_1}{P_1} < \frac{MU_2}{P_2}$ If this occurs you would consume more of good 2 and less of 1.

→ the equated MU/P also show the maximum total utility available to a consumer.