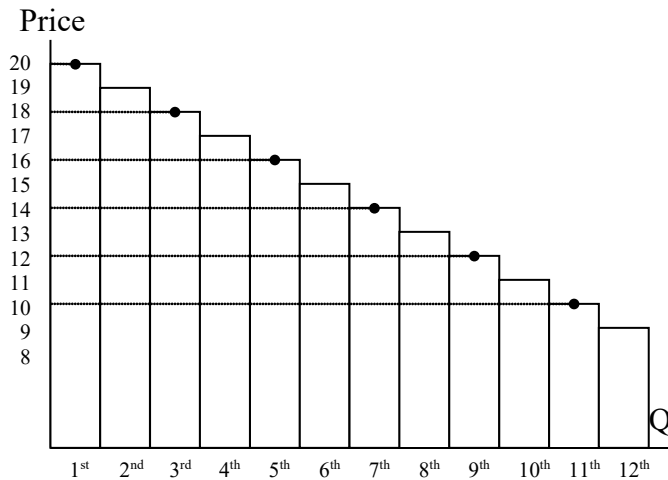


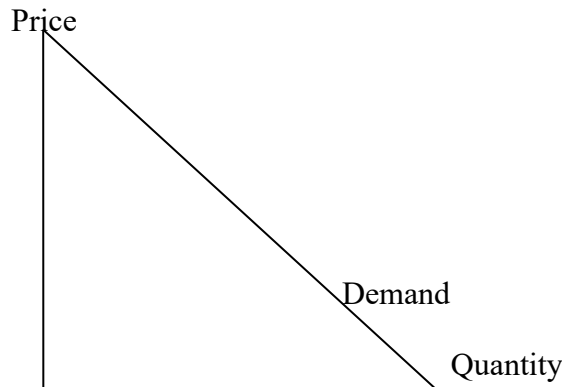
### TOPIC 03: SUPPLY AND DEMAND

#### I. Demand

- a. The neoclassical framework leads us nicely to the notion of equilibrium—the point at which no one can be better off by changing his or her behavior.
  - i. This is notably similar to the notion that people act until  $\text{marginal cost} = \text{marginal benefit}$ .



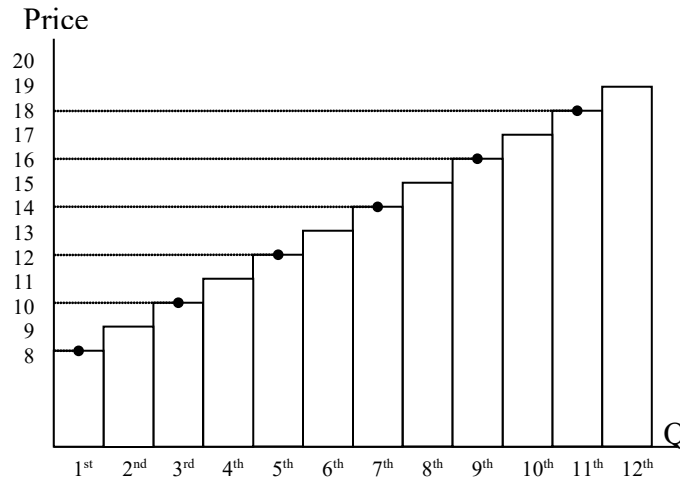
- b. Recall from last time when we explored marginal benefit. We can summarize a person's marginal utilities for oranges with a diagram.



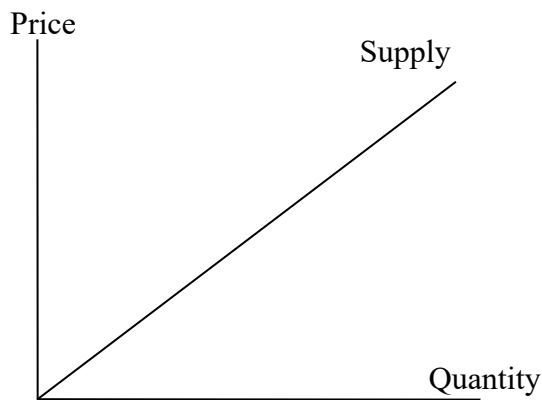
- c. Now, instead of focusing on one person, consider *everyone* in the whole of a market, such as the market for socks or chicken. As each person's marginal utility fills the graph, the marginal benefits resemble a line. This is the demand curve.

- d. Note how this diagram makes intuitive sense. As the price of something moves in one direction, the quantity people demand will move in the opposite direction. This is called the *Law of Demand*.

## II. Supply



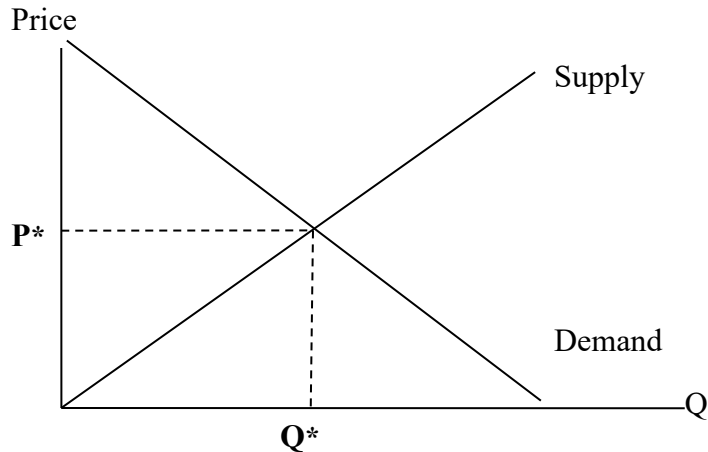
- a. Same goes with MC.



- b. And once again we can expand our thinking to the whole a market with all the sellers. Like our previous example, we come up with a smooth line but this time of marginal costs. Economists call this the supply curve.
- c. Note how this diagram also makes intuitive sense. As the price of something changes in one direction, the amount people will supply will move in that same direction. This is called the *Law of Supply*.

## III. Equilibrium

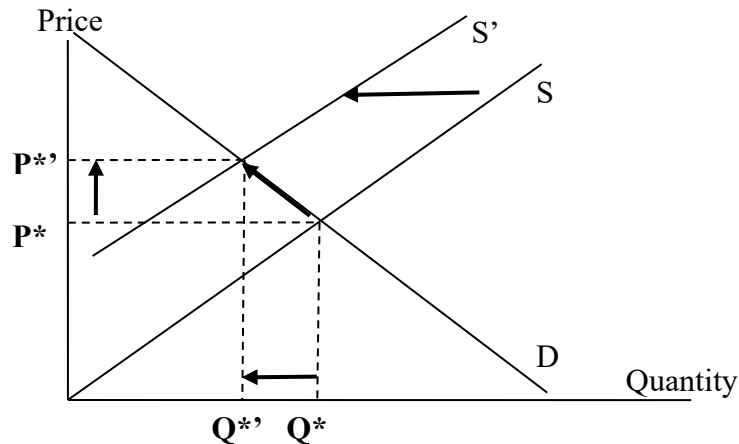
- a. Not surprisingly, the supply and demand curves can be combined into a single diagram. This diagram is perhaps the most important and insight in all of economics. It forms the foundation of much of economic thinking.



- b. Remember that because supply and demand curves also double as marginal cost and marginal benefit curves, the same rules apply: people consume until marginal cost equals marginal benefit. Thus we achieve an equilibrium where  $P^*$  is the equilibrium price and  $Q^*$  is the equilibrium quantity.
- c. Note that the equilibrium price is the market price, the price that people cannot deviate from nor influence.

#### IV. Shifting a Curve.

- a. Recall that the supply curve is a bunch of marginal costs and the demand curve is a bunch of marginal benefits.
- b. As the world changes, these costs and benefits change as well. A *curve* will shift, causing a movement along the *other* curve.
- c. This is perhaps the most interesting use of supply and demand analysis. While the diagram illustrates a simple world where the only things that matter are supply, demand, price, and quantity, we can simulate changes in the market by shifting the supply or the demand curve to the left or to the right. For example, suppose a hurricane came through and destroyed all the factories for making books. How does this affect the market for making books?



- i. The grounding assumption in this sort of analysis is *ceteris paribus*, Latin for “all other things being equal.” In other words, we do not consider how the market will react to this shock beyond the most immediate response. Because the economy is so complex, the analysis has to be done bit by bit. How does this *one change* affect this *one part* of the economy?
  - ii. Note that the supply of books shifted to the left and, to achieve the new equilibrium, there was an instantaneous movement *along* the demand curve.
- d. Another way to think about shifts is that *ceteris paribus* assumption:
- i. The same amount of books will cost more to produce.
  - ii. The same price of books will result in fewer books produced.
- V. Common Demand shifters
- a. Income
    - i. *Normal good or service*—a change in income result in demand shifting in the same direction (e.g. increase income increases demand).
    - ii. *Inferior good or service*— a change in income result in demand shifting in the opposite direction (e.g. increase income decreases demand).
  - b. Population of consumers
  - c. Price of *substitutes*—two goods or services consumed instead of one another
  - d. Price of *complements*—two goods or services consumed together
  - e. Tastes
- VI. Common Supply shifters
- a. Production (changes in productivity)
  - b. Input prices

- c. Population of producers
  - d. Opportunity cost
- VII. Revisiting
- a. Determining which way which curve shifts can be difficult for new students of supply and demand analysis. The best way to figure it out is to first note that any shift will result in one of four results:
    - i. The price will increase and the quantity will decrease.
    - ii. The price will increase and the quantity will increase.
    - iii. The price will decrease and the quantity will decrease.
    - iv. The price will decrease and the quantity will increase.
  - b. Then ask yourself which outcome seems most appropriate for the change that occurs. Each possibility corresponds to one and only one scenario: supply to the left (i); demand to the right (ii); demand to the left (iii); and supply to the right (iv).
  - c. Another strategy is to remember that supply is marginal cost and demand is marginal benefit. Then ask yourself if the change should affect how much consumers like the good or service or if it should affect how easy it is to provide the good or service.