**Week of September 9, 2007 – September 13, 2007**

*Example 1*
Your roommate has a budget to purchase two different clothes for the start of the semester, T-shirts (T) and sweaters (S). The budget is completely exhausted if 3 sweaters and 5 T-shirts are purchased or if 6 sweaters and no T-shirts are purchased. Each T-shirts is 15 dollars.

(i) Graph your roommate's budget for sweaters (S) and T-shirts (T).
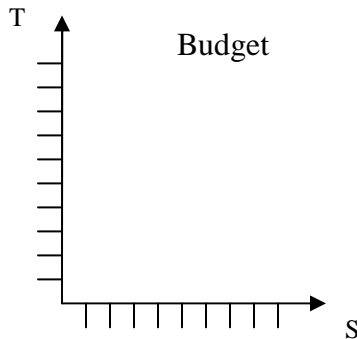


(ii) How much does your roommate have to spend on T-shirts and sweaters this semester?

(iii) How many T-shirts can be purchased if your roommate decides to not buy a sweater and brave the harsh winter?

(iv) What is the price of a sweater?

(v) What is the equation that characterizes your roommate's budget?

Your roommate's best friend from high school goes to Yale University and the price of T-Shirts and sweaters are $10 and $30 respectively. Your roommate's best friend has $140 to spend on clothing.

(vi) What is the equation that characterizes your roommate's best friend's budget?

(vii) Your roommate and their best friend want to coordinate what they wear each day and want to buy as much as possible as long as the same number of T-shirts and sweaters are purchased. How many T-Shirts and Sweaters will be purchased?

*Example 2*

Wisconsin and California each can produce only 2 drinks: milk and wine. If Wisconsin chooses to produce only milk it will produce 10 gallons. If Wisconsin produces wine, for each gallon of wine it costs 2 gallons of milk. California can produce 4 gallons of wine, but must give up 2 gallons of wine for each gallon of milk produced.

(i) Graph the production possibility frontiers for the two states.

Wine | Wisconsin

Milk

Wine | California
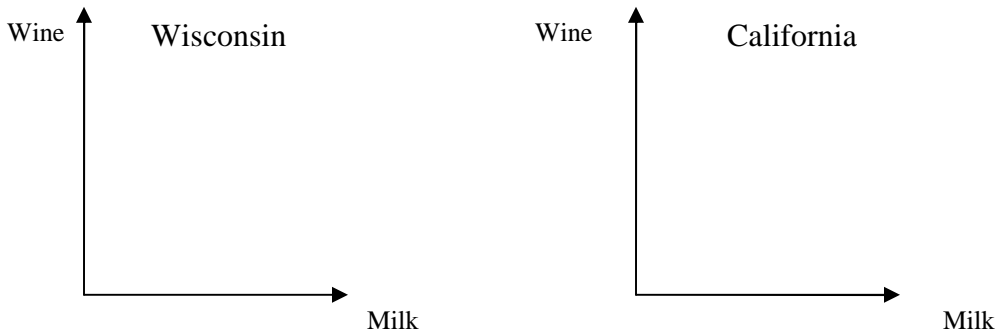
Milk

(ii) What is the opportunity cost of producing milk in Wisconsin? What is the opportunity cost of producing milk in California?

(iii) Who has the comparative advantage in the production of milk?

(iii) Who has the absolute advantage in the production of each drink?

(v) If the states were to trade with each other, which drink should Wisconsin import from California?

*Example 3*

The local farmer is trying to decide what to plant on their land, beets and soybeans. You know the farmer is limited in their production according to the following table.

| Beets | Soybeans |
|-------|----------|
| 100   | 0        |
| 80    | 30       |
| 60    | 50       |
| 40    | 70       |
| 20    | 90       |
| 0     | 100      |

S



B
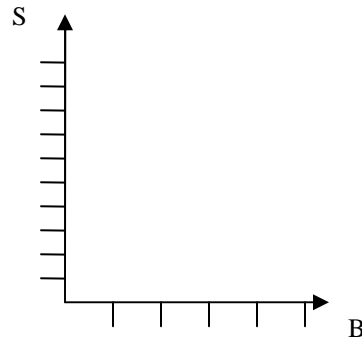
(i) Graph the farmer's production possibility frontier.  Is it linear?

(ii) What could explain this shape?