

1. Suppose Ted the track team trainer can produce two outputs, fast runners (R) and strong shot putters (S). If Ted works 40-hours per week, Ted's production possibilities frontier (PPF) per semester for these two outputs is given by the equation:

$$S = -(1/3) R + 5$$

Or

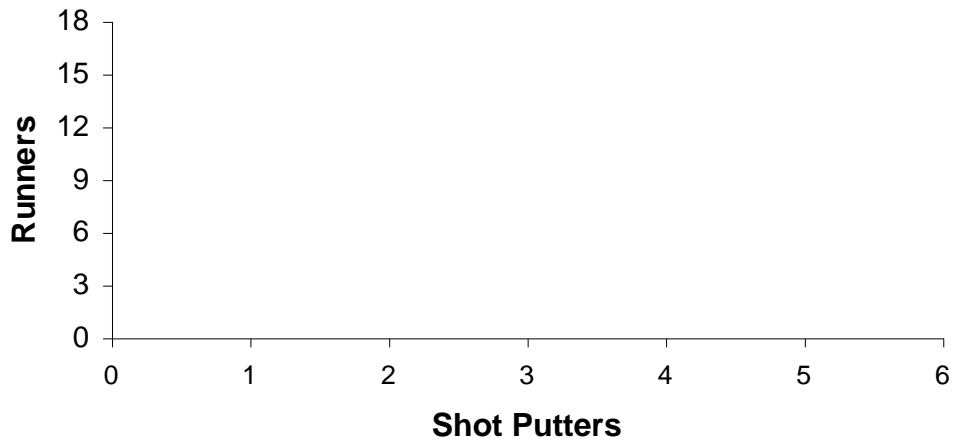
$$R = -3S + 15$$

a. Complete the following table:

Number of trained runners	Number of trained shot putters
15	
12	
9	
6	
3	
0	

b. Graph Ted's PPF for runners and shot putters in Figure 1. Measure shot putters on the horizontal axis.

Figure 1



c. Suppose Ted is currently producing 0 shot putters. What is Ted's opportunity cost of increasing his production of shot putters from 0 to 2?

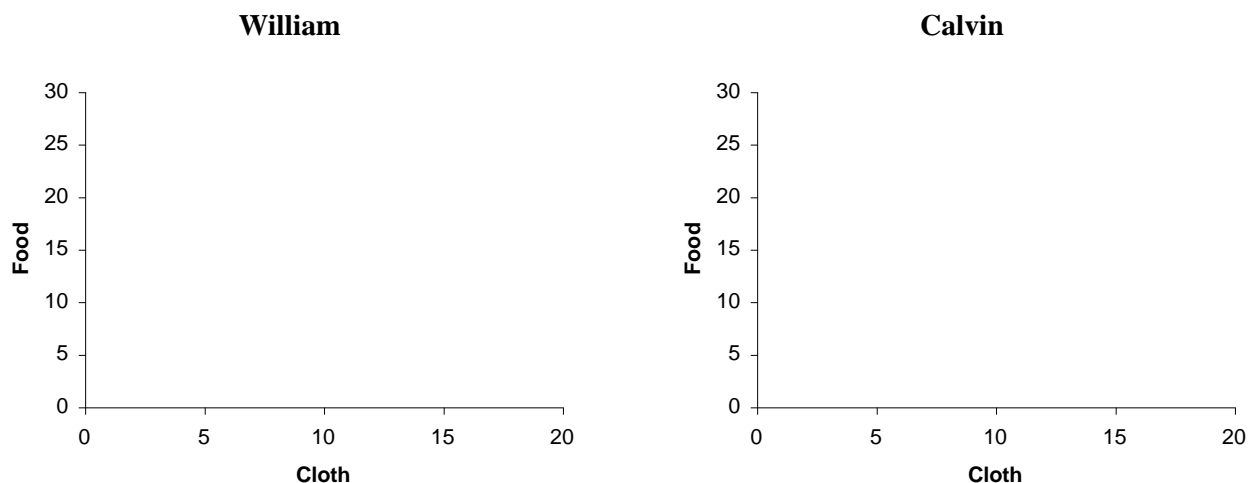
d. Suppose Ted is currently producing 2 shot putters. What is Ted's opportunity cost of increasing production of shot putters from 2 to 4?

- e. Does Ted's PPF exhibit **increasing, decreasing, or constant** opportunity costs (**circle one**)? Explain. Does this seem realistic? Explain.
- f. What is Ted's opportunity cost for **each** shot putter produced?
- g. What is Ted's opportunity cost for **each** runner produced?
- h. What would you say about Ted's production if 3 shot putters and 2 runners were produced in a given semester? Would he be operating on his PPF?
- i. Suppose that Ted's computer crashes – his computer that contains the only copy of his program for optimal nutrition and training requirements for athletes, making it harder to train runners and shot putters as well as before. In figure 1, **sketch a new PPF for Ted** that illustrates what this will do to his production possibilities. Label this PPF "PPF 2." Briefly **explain below** what has happened to Ted's PPF and why.
- j. Starting from Ted's original PPF, suppose that the athletic department hires an assistant for Ted, allowing him to further refine his training techniques. In figure 1, **sketch a new PPF for Ted** that illustrates what this will do to his production possibilities. Label this PPF "PPF 3." Briefly **explain below** what has happened to Ted's PPF and why.

2. In one month, two producers, William and Calvin, can produce cloth and food according to the production possibilities given in the following table:

Individual	Production Possibilities
William	30 pounds of food or 10 yards of cloth
Calvin	10 pounds of food or 20 yards of cloth

a. Graph the production possibilities curves for the two individuals below. Assume constant opportunity costs and measure cloth on the horizontal axes.



b. William has comparative advantage in producing (circle one): **food, cloth, both, neither.** Why?

c. Calvin has comparative advantage in producing (circle one): **food, cloth, both, neither.** Why?

d. If the two individuals specialize in production, _____ should specialize in producing food and _____ should specialize in producing cloth? Briefly explain your answer.

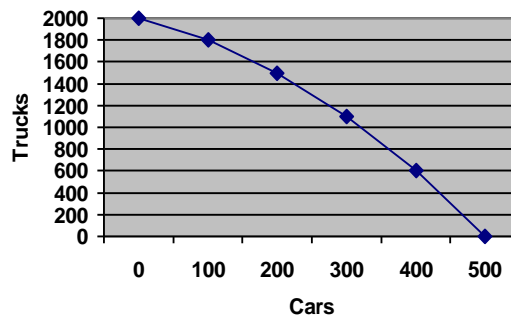
e. Suggest a trade that would make both individuals better off than if they produced and consumed independently of one another. In the graphs above, show that their new point of “consumption possibilities” based on your trade terms moves each individual beyond their PPF. Hint: There are an infinite number of possible correct answers. Start by assuming that William (or Calvin) wants to keep a certain amount of food (or cloth), and then find a trade that will get them beyond their PPF for that level of food (cloth).

Homework 1 -- Multiple Choice

1. Suppose that in one week, Barbara Walters can host **either** 5 editions of *The View* (a daytime talk show) **or** 2 editions of *20/20* (a nighttime news show). Based on this information, the opportunity cost of hosting one edition of *The View* for Barbara Walters is:
 - a. hosting 2 editions of *20/20*
 - b. hosting 5 editions of *20/20*
 - c. hosting 5 editions of *The View*
 - d. hosting 2/5 an edition of *20/20*
 - e. hosting 5/2 an edition of *20/20*
2. Opportunity cost refers to
 - a. the dollars spent on a product
 - b. the best of the alternatives foregone in order to produce or consume something
 - c. the resources used to make something
 - d. the money spent by a business to produce something
3. Assuming that rational people are motivated by incentives, what would occur if the average salary of education majors falls by 30 percent and the average salary of economics majors rises by 10 percent, *ceteris paribus*?
 - a. Some students will shift majors from economics to education.
 - b. Some students will shift majors from education to economics.
 - c. Some students will stop majoring in both economics and education.
 - d. Some students will drop out of college.
4. According to the principle of comparative advantage, the U.S. imports those goods and services for which it has a relatively high
 - a. demand
 - b. sunk cost
 - c. opportunity cost
 - d. productivity advantage
 - e. supply
5. Trade between the U.S. and Mexico allows both countries to gain because they can consume a combination of goods and services that lies
 - a. inside their production possibilities curves
 - b. along their production possibilities curves
 - c. outside their production possibilities curves
 - d. at the endpoints of their production possibilities curves
6. The war in Iraq significantly impacted Iraq's ability to produce goods and services. This could be represented by
 - a. a movement down along Iraq's production possibilities curve
 - b. a movement off Iraq's production possibilities curve to some point inside the curve
 - c. a movement off Iraq's production possibilities curve to some point outside the curve
 - d. an inward (leftward) shift of Iraq's production possibilities curve
 - e. an outward (rightward) shift of Iraq's production possibilities curve

Country	Production per year
Mosnia	10,000 units of textiles or 300,000 autos
Frاندlandia	25,000 units of textiles or 100,000 autos

7. Mosnia and Frاندlandia are two countries that produce according to the table above. Which of the following is true?
- Mosnia has comparative advantage in producing autos.
 - Mosnia has comparative advantage in producing textiles
 - Frاندlandia has comparative advantage in producing autos
 - Frاندlandia has comparative advantage in producing textiles.
 - Both a and d
 - Both b and c
8. When we say “other things equal” with regard to the production possibilities model, we mean that:
- The PPF can only shift once
 - Only one factor that shifts the PPF outward is allowed to change at a time
 - Factors that shift the PPF are held constant when we draw a given PPF
 - Increasing the amount of the good measured on the x-axis will shift the PPF
 - none of the above



9. Consider the production possibilities curve above showing alternative combinations of cars and trucks that can be produced in Happyville. The opportunity cost of moving from producing 400 to 500 cars is _____ trucks.
- 100 cars
 - 500 trucks
 - 100 trucks
 - 600 trucks
10. Increasing opportunity cost occurs because
- workers become more productive as they work longer hours
 - resources are specialized – they tend to be better at producing some goods than others
 - prices rise as additional output is produced
 - unemployment falls as output increases