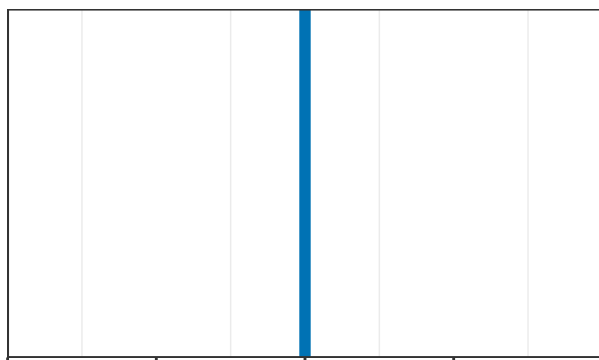


Assignment 1: Ch 2

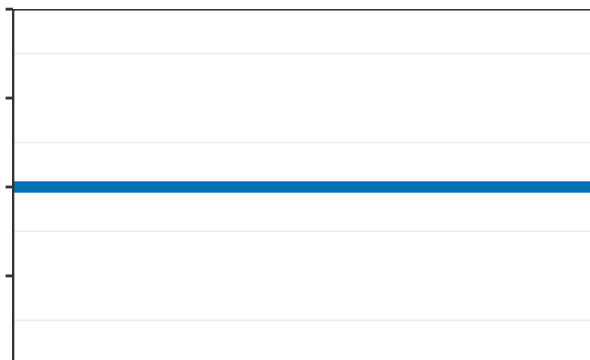
Question 1

Study the four accompanying diagrams. Consider the following statements and indicate which diagram matches each statement. Which variable would appear on the horizontal and which on the vertical axis? In each of these statements, is the slope positive, negative, zero, or infinity?

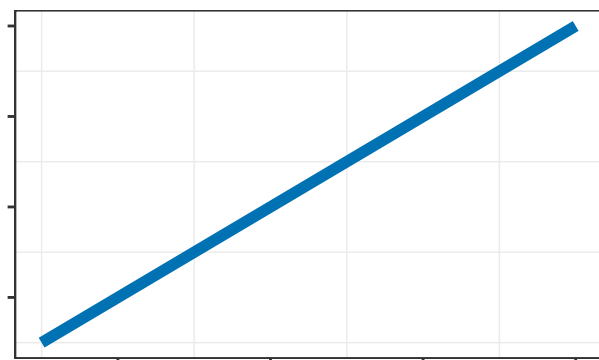
Panel A



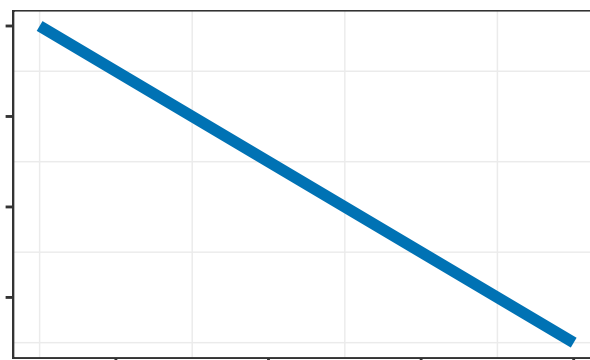
Panel B



Panel C



Panel D



- a. If the price of movies increases, fewer consumers go to see movies.
- b. More experienced workers typically have higher incomes than less experienced workers.
- c. Whatever the temperature outside, Americans consume the same number of hot dogs per day.
- d. Consumers buy more frozen yogurt when the price of ice cream goes up.
- e. Research finds no relationship between the number of diet books purchased and the number of pounds lost by the average dieter.
- f. Regardless of its price, Americans buy the same quantity of salt.

Question 2

The accompanying table shows the relationship between workers' hours of work per week and their hourly wage rate. Apart from the fact that they receive a different hourly wage rate and work different hours, these five workers are otherwise identical.

Name	Quantity of labor (hrs/wk)	Wage rate (/hr)
Athena	30	\$15
Boris	35	30
Curt	37	45
Diego	36	60
Emily	32	75

- Which variable is the independent variable? Which is the dependent variable?
- Draw a scatter diagram illustrating this relationship. Draw a (nonlinear) curve that connects the points. Put the hourly wage rate on the vertical axis.
- As the wage rate increases from \$15 to \$30, how does the number of hours worked respond according to the relationship depicted here? What is the average slope of the curve between Athena's and Boris's data points using the arc method?
- As the wage rate increases from \$60 to \$75, how does the number of hours worked respond according to the relationship depicted here? What is the average slope of the curve between Diego's and Emily's data points using the arc method?

Question 3

Two important industries on the island of Bermuda are fishing and tourism. According to data from the Food and Agriculture Organization of the United Nations and the Bermuda Department of Statistics, in 2014 the 315 registered fishermen in Bermuda caught 497 metric tons of marine fish. And the 2,446 people employed by hotels produced 580,209 hotel stays (measured by the number of visitor arrivals). Suppose that this production point is efficient in production. Assume also that the opportunity cost of 1 additional metric ton of fish is 2,000 hotel stays and that this opportunity cost is constant (the opportunity cost does not change).

- If all 315 registered fishermen were to be employed by hotels (in addition to the 2,446 people already working in hotels), how many hotel stays could Bermuda produce?
- If all 2,446 hotel employees were to become fishermen (in addition to the 315 fishermen already working in the fishing industry), how many metric tons of fish could Bermuda produce?
- Draw a production possibility frontier for Bermuda, with fish on the horizontal axis and hotel stays on the vertical axis, and label Bermuda's actual production point for the year 2014.

Question 4

According to data from the U.S. Department of Agriculture's National Agricultural Statistics Service, 124 million acres of land in the United States were used for wheat or corn farming in a recent year. Of those 124 million acres, farmers used 50 million acres to grow 2.158 billion bushels of wheat and 74 million acres to grow 11.807 billion bushels of corn. Suppose that U.S. wheat and corn farming is efficient in production. At that production point, the opportunity cost of producing 1 additional bushel of wheat is 1.7 fewer bushels of corn. However, because farmers have increasing opportunity costs, additional bushels of wheat have an opportunity cost greater than 1.7 bushels of corn. For each of the following production points, decide whether that production point is (i) feasible and efficient in production, (ii) feasible but not efficient in production, (iii) not feasible, or (iv) unclear as to whether or not it is feasible.

- Farmers use 40 million acres of land to produce 1.8 billion bushels of wheat, and they use 60 million acres of land to produce 9 billion bushels of corn. The remaining 24 million acres are left unused.

- b.** From their original production point, farmers transfer 40 million acres of land from corn to wheat production. They now produce 3.158 billion bushels of wheat and 10.107 bushels of corn.
- c.** Farmers reduce their production of wheat to 2 billion bushels and increase their production of corn to 12.044 billion bushels. Along the production possibility frontier, the opportunity cost of going from 11.807 billion bushels of corn to 12.044 billion bushels of corn is 0.666 bushel of wheat per bushel of corn.

Question 5

In the ancient country of Roma, only two goods, spaghetti and meatballs, are produced. There are two tribes in Roma, the Tivoli and the Frivoli. By themselves, the Tivoli each month can produce either 30 pounds of spaghetti and no meatballs, or 50 pounds of meatballs and no spaghetti, or any combination in between. The Frivoli, by themselves, each month can produce 40 pounds of spaghetti and no meatballs, or 30 pounds of meatballs and no spaghetti, or any combination in between.

a. Assume that all production possibility frontiers are straight lines. Draw one diagram showing the monthly production possibility frontier for the Tivoli and another showing the monthly production possibility frontier for the Frivoli. Show how you calculated them.

b. Which tribe has the comparative advantage in spaghetti production? In meatball production?

In a.d. 100 the Frivoli discover a new technique for making meatballs that doubles the quantity of meatballs they can produce each month.

c. Draw the new monthly production possibility frontier for the Frivoli.

d. After the innovation, which tribe now has an absolute advantage in producing meatballs? In producing spaghetti? Which has the comparative advantage in meatball production? In spaghetti production?

Question 6

Peter Pundit, an economics reporter, states that the European Union (EU) is increasing its productivity very rapidly in all industries. He claims that this productivity advance is so rapid that output from the EU in these industries will soon exceed that of the United States and, as a result, the United States will no longer benefit from trade with the EU.

a. Do you think Peter Pundit is correct or not? If not, what do you think is the source of his mistake?

b. If the EU and the United States continue to trade, what do you think will characterize the goods that the EU sells to the United States and the goods that the United States sells to the EU?

Question 7

You are in charge of allocating residents to your dormitory's baseball and basketball teams. You are down to the last four people, two of whom must be allocated to baseball and two to basketball. The accompanying table gives each person's batting average and free-throw average.

Name	Batting Average	Free-throw
Kelley	70%	60%
Jackie	50%	50%
Curt	10%	30%
Gerry	80%	70%

a. Explain how you would use the concept of comparative advantage to allocate the players. Begin by establishing each player's opportunity cost of free throws in terms of batting average.

b. Why is it likely that the other basketball players will be unhappy about this arrangement but the other

baseball players will be satisfied? Nonetheless, why would an economist say that this is an efficient way to allocate players for your dormitory's sports teams?

Question 8

The inhabitants of the fictional economy of Atlantis use money in the form of cowry shells. Draw a circular-flow diagram showing households and firms. Firms produce potatoes and fish, and households buy potatoes and fish. Households also provide the land and labor to firms. Identify where in the flows of cowry shells or physical things (goods and services, or resources) each of the following impacts would occur. Describe how this impact spreads around the circle.

- a. A devastating hurricane floods many of the potato fields.
- b. A very productive fishing season yields a very large number of fish caught.
- c. The inhabitants of Atlantis discover Shakira and spend several days a month at dancing festivals.

Question 9

Are the following statements true or false? Explain your answers.

- a. "When people must pay higher taxes on their wage earnings, it reduces their incentive to work" is a positive statement.
- b. "We should lower taxes to encourage more work" is a positive statement.
- c. Economics cannot always be used to completely decide what society ought to do.
- d. "The system of public education in this country generates greater benefits to society than the cost of running the system" is a normative statement.
- e. All disagreements among economists are generated by the media.