

## Scarcity, Opportunity Cost and Production Possibilities Curves

Scarcity necessitates choice. Consuming or producing more of one thing means consuming or producing less of something else. The opportunity cost of using scarce resources for one thing instead of something else is often represented in graphical form as a *production possibilities curve*.

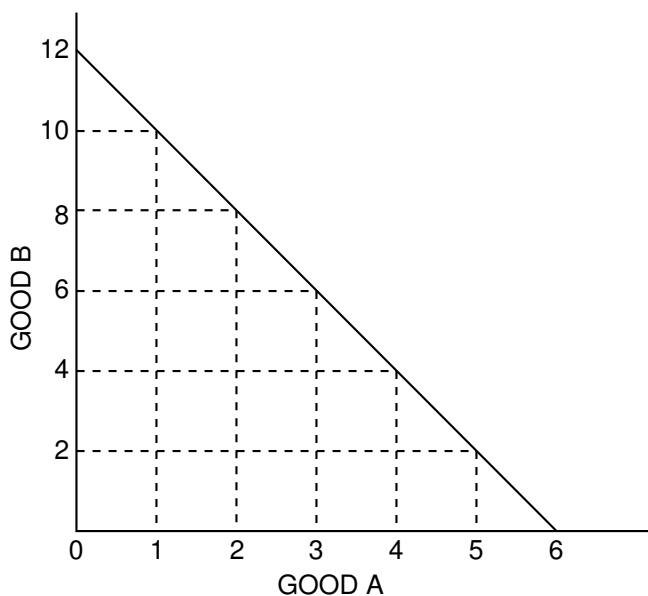
### Part A

Use Figures 2.1 and 2.2 to answer these questions. Write the correct answer on the answer blanks, or underline the correct answer in parentheses.



Figure 2.1

#### Production Possibilities Curve 1



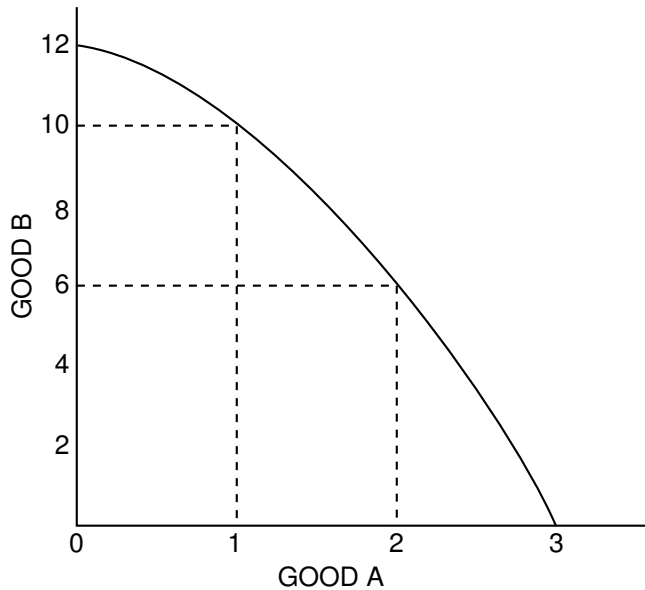
1. If the economy represented by Figure 2.1 is presently producing 12 units of Good B and zero units of Good A:
  - (A) The opportunity cost of increasing production of Good A from zero units to one unit is the loss of \_\_\_\_\_ unit(s) of Good B.
  - (B) The opportunity cost of increasing production of Good A from one unit to two units is the loss of \_\_\_\_\_ unit(s) of Good B.
  - (C) The opportunity cost of increasing production of Good A from two units to three units is the loss of \_\_\_\_\_ unit(s) of Good B.
  - (D) This is an example of (*constant / increasing / decreasing / zero*) opportunity cost per unit for Good A.

Adapted from Phillip Saunders, *Introduction to Microeconomics: Student Workbook*, 18th ed. (Bloomington, Ind., 1998). Copyright ©1998 Phillip Saunders. All rights reserved.



Figure 2.2

## Production Possibilities Curve 2

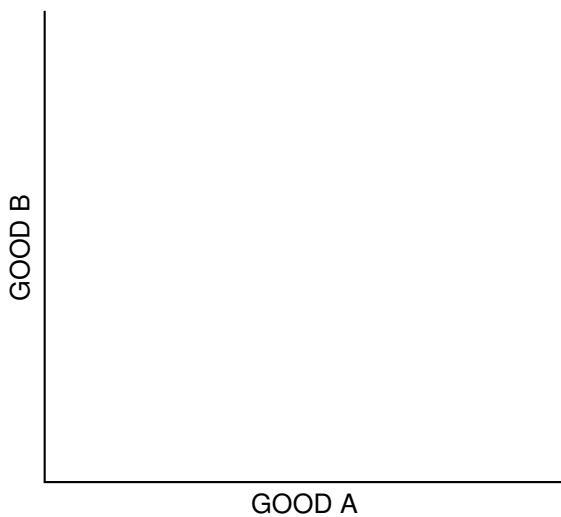


2. If the economy represented in Figure 2.2 is presently producing 12 units of Good B and zero units of Good A:
- (A) The opportunity cost of increasing production of Good A from zero units to one unit is the loss of \_\_\_\_\_ unit(s) of Good B.
  - (B) The opportunity cost of increasing production of Good A from one unit to two units is the loss of \_\_\_\_\_ unit(s) of Good B.
  - (C) The opportunity cost of increasing production of Good A from two units to three units is the loss of \_\_\_\_\_ unit(s) of Good B.
  - (D) This is an example of (*constant / increasing / decreasing / zero*) opportunity cost per unit for Good A.

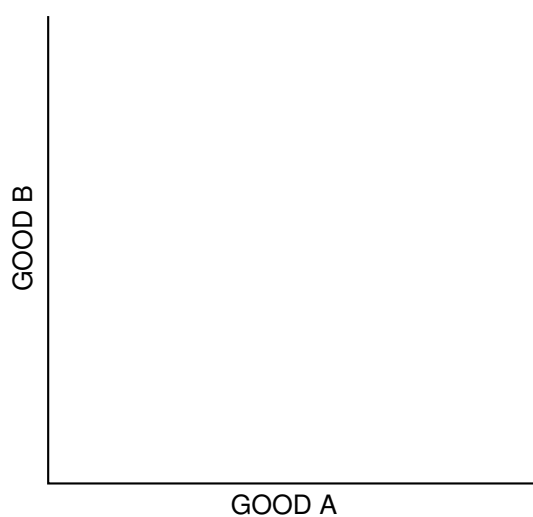
**Part B**

Use the axes in Figures 2.3, 2.4 and 2.5 to draw the type of curve that illustrates the label above each axis.

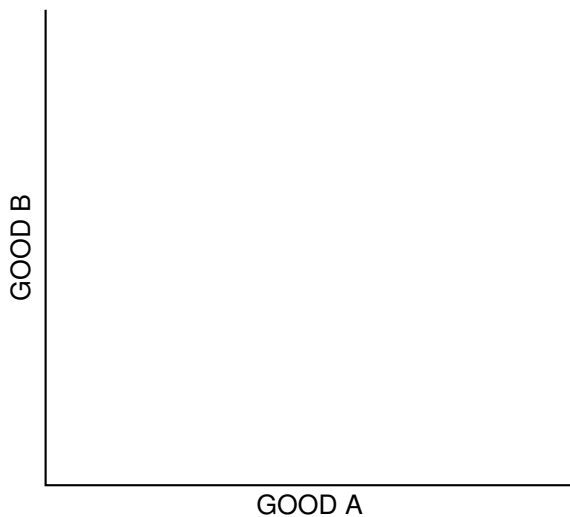
\* Figure 2.3  
**Production Possibilities Curve 3**  
Increasing opportunity cost per unit of Good B



\* Figure 2.4  
**Production Possibilities Curve 4**  
Zero opportunity cost per unit of Good B



\* Figure 2.5  
**Production Possibilities Curve 5**  
Constant opportunity cost per unit of Good B



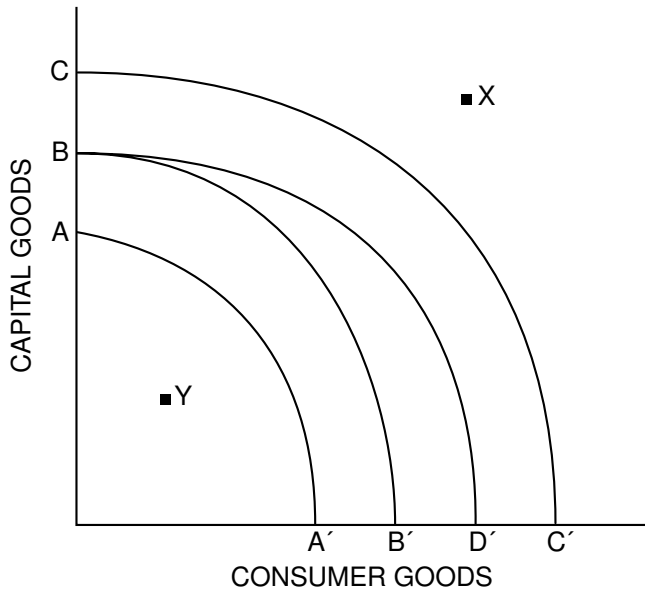
**Part C**

Use Figure 2.6 to answer the next five questions. Each question starts with Curve BB' as a country's production possibilities curve.



Figure 2.6

**Production Possibilities Curve: Capital Goods and Consumer Goods**



3. Suppose there is a major technological breakthrough in the consumer-goods industry, and the new technology is widely adopted. Which curve in the diagram would represent the new production possibilities curve? (Indicate the curve you choose with two letters.) \_\_\_\_\_
4. Suppose a new government comes into power and forbids the use of automated machinery and modern production techniques in all industries. Which curve in the diagram would represent the new production possibilities curve? (Indicate the curve you choose with two letters.) \_\_\_\_\_
5. Suppose massive new sources of oil and coal are found within the economy, and there are major technological innovations in both industries. Which curve in the diagram would represent the new production possibilities curve? (Indicate the curve you choose with two letters.) \_\_\_\_\_
6. If BB' represents a country's current production possibilities curve, what can you say about a point like X? (Write a brief statement.)
7. If BB' represents a country's current production possibilities curve, what can you say about a point like Y? (Write a brief statement.)

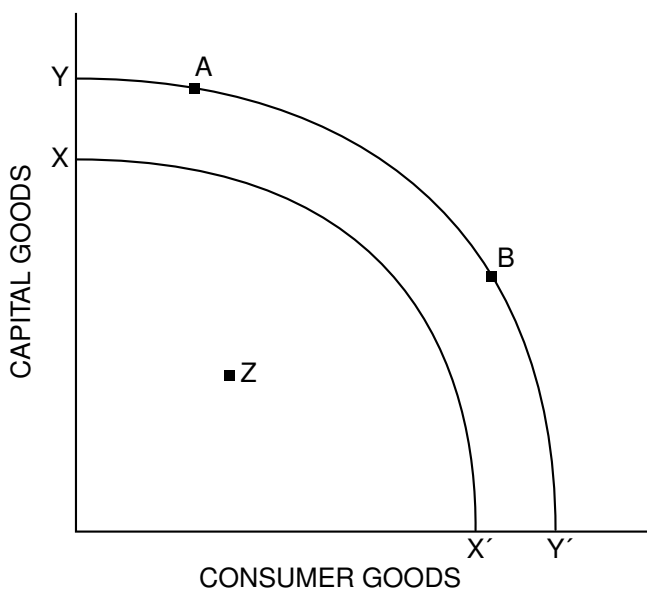
**Part D**

Use Figure 2.7 to answer the next three questions.



Figure 2.7

**Production Possibilities Curve: Capital Goods and Consumer Goods**



8. What change could cause the production possibilities curve to shift from the original curve (XX') to the new curve (YY')?
  
9. Under what conditions might an economy be operating at Point Z?
  
10. Why might a government implement policy to move the economy from Point B to Point A?