

# Make-it-happen Monday, August 22 | Turn-it-up Tuesday, August 23

- Warm up: Talk to your neighbor about starting a bakery. What kinds of specific factors of production would you need? Also, what allocation methods would you use for your goods?
- *Learning targets (Write these in your notes!): I can define trade offs and opportunity costs. I can explain how the PPC illustrates opportunity costs, tradeoffs, inefficiency, efficiency, and economic growth or contraction. (Topic 1.2).*
- Agenda: Notes and problems on trade offs, opportunity costs, and PPCs

The left side of the slide features a series of vertical stripes in shades of brown, tan, and white. To the right of these stripes are several orange circles of varying sizes, arranged in a cluster that resembles a thought bubble or a decorative graphic element.

**TEXTBOOKS: DOES ANYONE STILL  
NEED ONE?**

# TOPIC 1.1 WE WILL NOT SPEND A LOT OF TIME ON THIS IN CLASS!! LEARN IT ON YOUR OWN!

- What questions do you have from your homework?
- Key concepts from 1.1:
  - What is economics?
  - Scarcity
  - Factors of Production
  - Choice
  - Three economic questions that each society must answer
  - Positive economics (measuring how things are) and normative economics (how things should be)

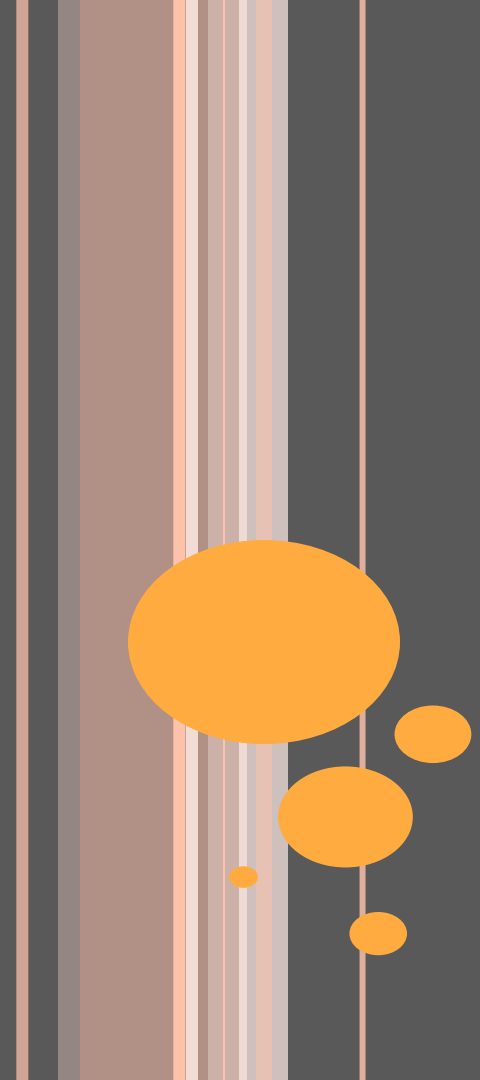
The left side of the slide features a series of vertical stripes in shades of brown, tan, and white. To the right of these stripes are several orange circles of varying sizes, arranged in a descending staircase pattern from top-left to bottom-right. The text 'WHAT IS ECONOMICS?' is positioned to the right of these circles.

# WHAT IS ECONOMICS?

# DEFINITION OF ECONOMICS

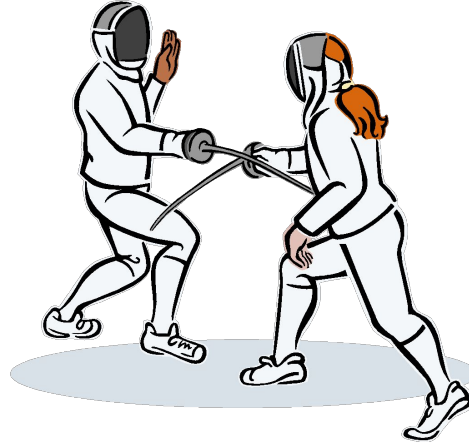
- The study of how people – individually and in groups (businesses, governments, societies, etc.) – decide to use their limited (scarce) resources to satisfy their unlimited wants.
- **Economics**- Social science concerned with the efficient use of scarce resources to achieve maximum satisfaction of economic wants.





**REMEMBER DEFINITION OF ECONOMICS:** *The study of how people – individually and in groups (businesses, governments, societies, etc.) – decide to use their limited (scarce) resources to satisfy their unlimited wants and needs.*

# Allocation Strategies





# WHAT IS MACROECONOMICS?

**Macroeconomics is the study of the behavior and performance of the economy as a whole. It is the study of the “big picture.”**

- **Instead of analyzing one consumer, we analyze everyone.**
- **Instead of one business, we study all businesses.**



# WHY STUDY THE WHOLE ECONOMY?

- **The field of macroeconomics was born during the Great Depression.**
  - **Back then, the government didn't understand how to fix a depressed economy with 25% unemployment.**
- **Macro was created to:**
  - **Measure the health of the whole economy (positive).**
  - **Guide government policies to fix macroeconomic problems (normative).**



# WHERE HAVE WE BEEN SO FAR?

- Households and businesses are interdependent and interact through the factor market and product market
- Factors of production (capital, entrepreneurship, land and labor) are needed to produce any finished good or service
- All societies experience scarcity of resources.
- Because of scarcity, societies must make choices about how to allocate scarce resources.
- All societies have to answer three important questions to determine the kind of economic system they want
- All choices result in trade offs and opportunity costs...

# Trade Offs and Opportunity Costs

# TRADE OFFS

- **Trade-offs** are all the things we give up when we choose one thing among several options.
  - We have trade-offs **EVERY DAY** when we make choices and we have **UNLIMITED** tradeoffs throughout our lives.

# The O.C.: There's only 1!

- The second-best or **next-best** alternative is called your **opportunity cost**.
  - Opportunity cost is your second choice.
  - Economists say it is important to take your O.C. into consideration when you make a decision.

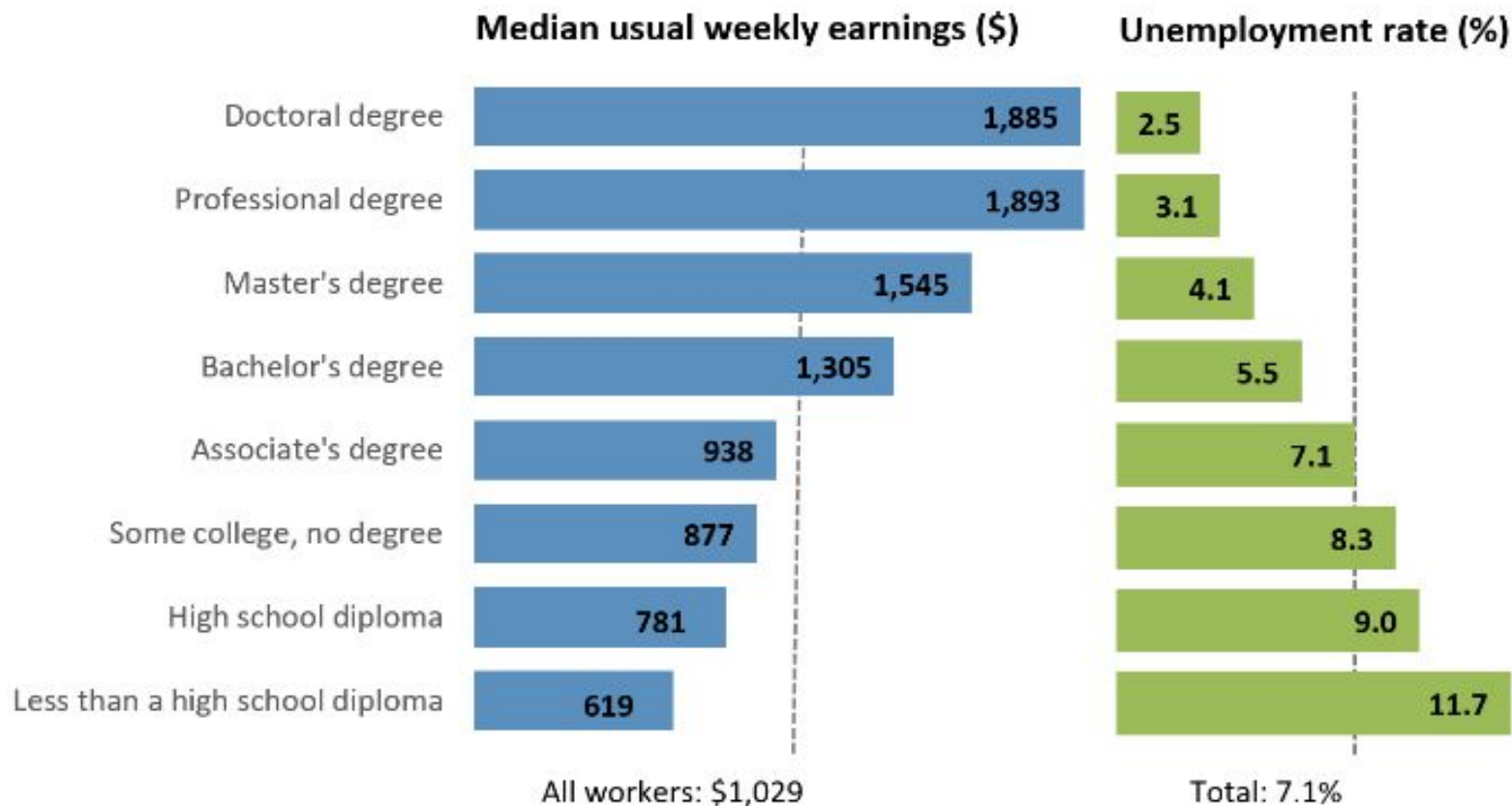
What is your opportunity cost for sleeping in on Saturday morning?

# Opportunity Cost of Going to College?

1. TTYN re. the O.C. of going to college.
2. Study the graph. What does the data suggest about the benefits of pursuing education?
3. Does the graph provide a response or counterpoint to the O.C. of going to college? Explain.



# Earnings and unemployment rates by educational attainment, 2020



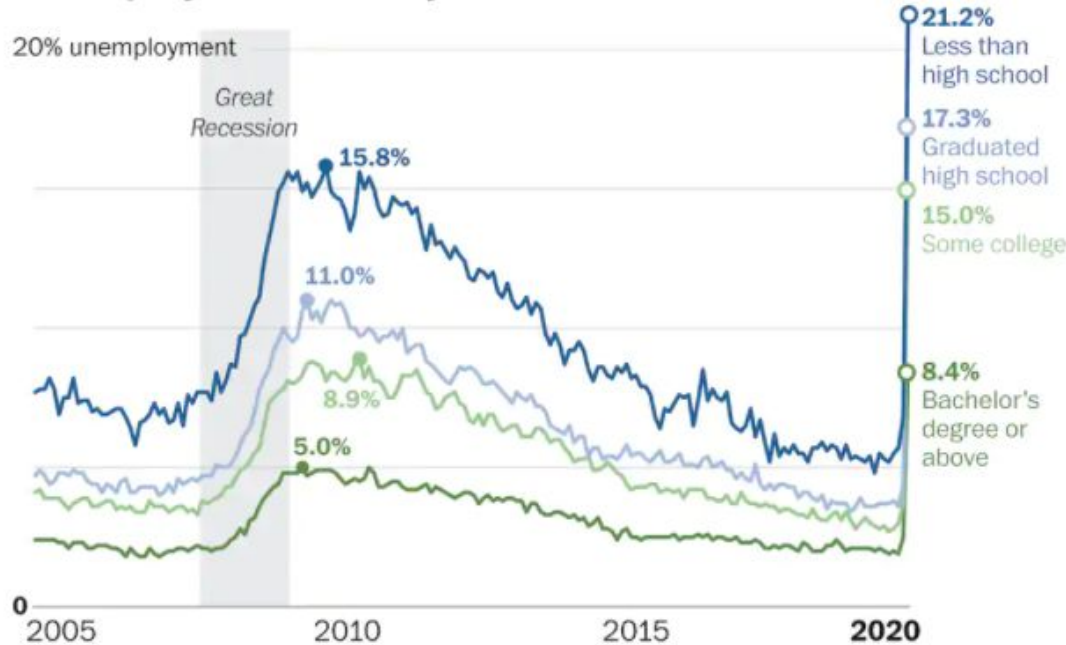
Note: Data are for persons age 25 and over. Earnings are for full-time wage and salary workers.

Source: U.S. Bureau of Labor Statistics, Current Population Survey.

# UNEMPLOYMENT DURING PANDEMIC BY EDUCATIONAL LEVEL

[HTTPS://WWW.WASHINGTONPOST.COM/BUSINESS/2020/05/09/JOBS-REPORT-DEMOGRAPHICS/](https://www.washingtonpost.com/business/2020/05/09/jobs-report-demographics/)

## Unemployment rate by education level



Note: For civilian Americans age 25 and older, seasonally adjusted

Source: Labor Department

THE WASHINGTON POST

- Unemployment Rate - Bachelor's Degree and Higher, 25 Yrs. & over
- Unemployment Rate - High School Graduates, No College, 25 Yrs. & over
- Unemployment Rate - College Graduates - Master's Degree, 25 years and over
- Unemployment Rate - Less Than a High School Diploma, 25 Yrs. & over



Shaded areas indicate U.S. recessions.

Source: U.S. Bureau of Labor Statistics

fred.stlouisfed.org





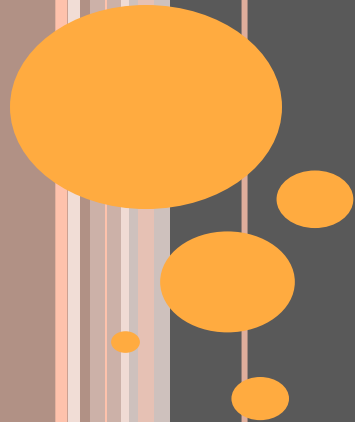
# Economics of College



## WHERE HAVE WE BEEN SO FAR?

- Scarcity leads to
- Choices/allocation decisions made with marginal analysis which leads to
- Trade-offs and opportunity costs which leads to
- A model, the PPC, that illustrates scarcity, opportunity costs, efficiency . . .

# Production Possibilities Curve [PaPer Clip Activity]



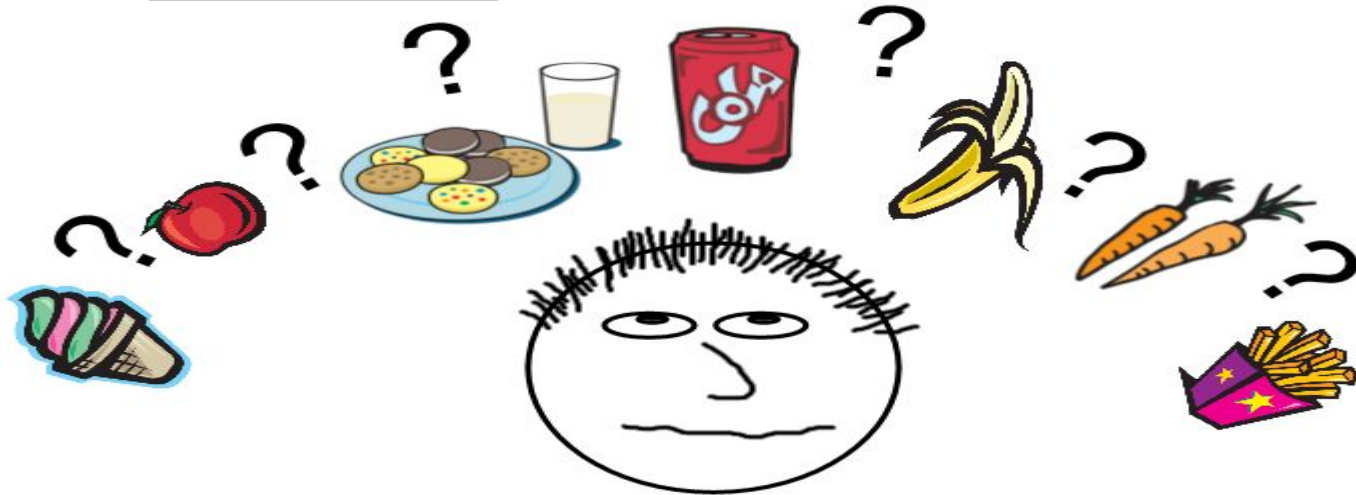
# The Production Possibilities Curve

(PPC) or Production Possibilities Frontier (PPF)

To make something

Something that might happen; something that is possible

- A useful economic model ...



What to produce?



# PPCs

- What is a PPC? A model that shows the maximum output of two goods using a fixed amount of productive resources (input). It also measures the trade-off between producing one good versus another.

# PPCs

- Rules about this model ...
  1. a society that produces only two goods
  2. fixed technology and productive resources (FoP); in other words, the PPC is a single snapshot in time

Back

- You produce DEVICES.



????? ? ? ? ?

irer who sp  
oods that a



IGH

- Trio: a string of three paper clips
- Duo: a string of two paper clips.

**NOTE: These are the only two goods you make (remember the assumptions).**

# Duos and TRIOS



# Activity

- You want to evaluate how much you can produce (your “production possibilities”) given your fixed and limited productive resources:
  1. two laborers and
  2. fifteen capital resources (single paperclips).
- Keep track of your production: Trios, Duos, leftovers

# Your boss says make ...

- 5 Trios
  - How many units of Duos can you make?
  - Do you have any paperclips left over?

Now, your boss says let's  
reallocate some resources  
and make ...

- 4 units of Trios
  - How many units of Duos can you make?
  - Do you have any paperclips left over?

Now, your boss says let's  
reallocate some resources  
and make ...

- 3 units of Trios
  - How many Duos can you make?
  - Do you have any paperclips left over?



Now, your boss says let's  
reallocate some resources  
and make ...

- 2 units of Trios
  - How many Duos can you make?
  - Do you have any paperclips left over?

Now, your boss says let's  
reallocate some resources  
and make ...

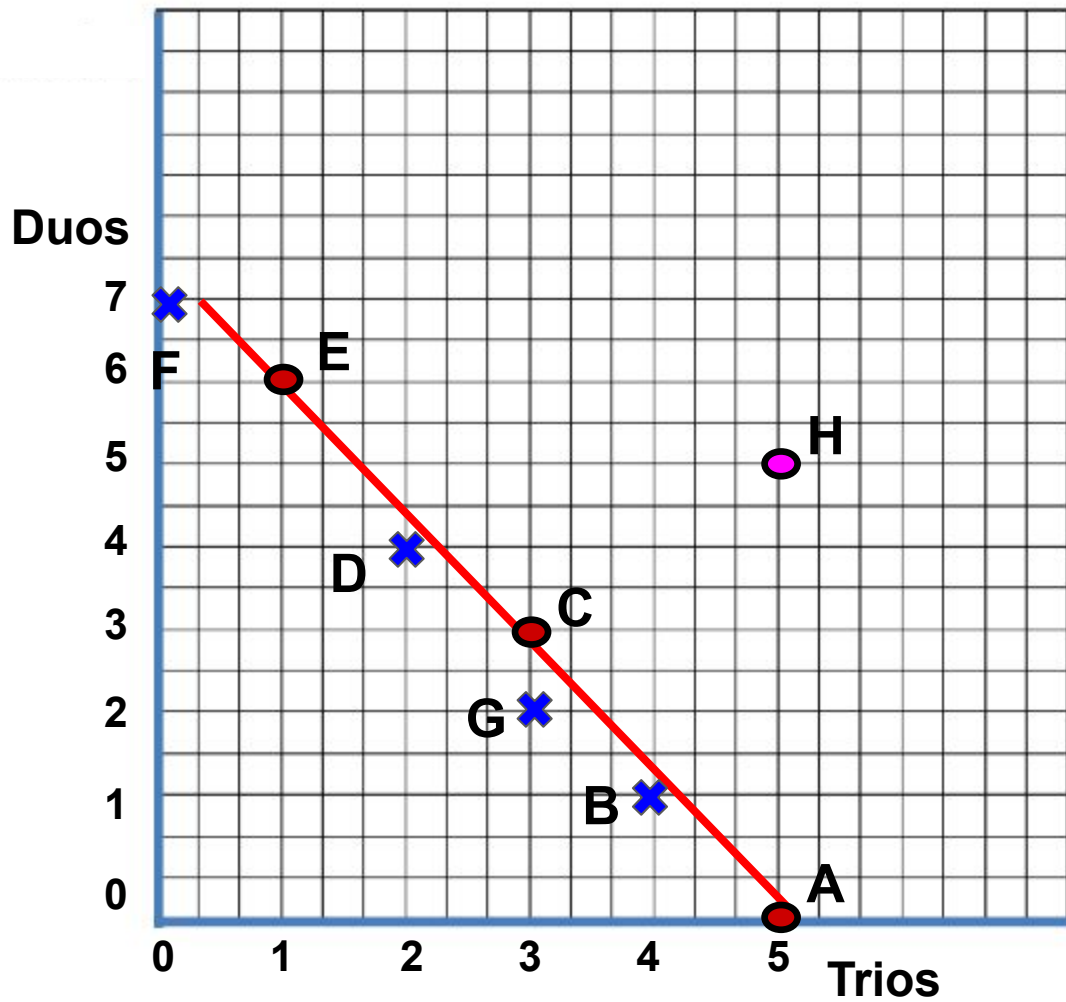
- 1 unit of Trios
  - How many Duos can you make?
  - Do you have any paperclips left over?

Now, your boss says let's  
reallocate some resources  
and make ...

- 0 units of Trios
  - How many Duos can you make?
  - Do you have any paperclips left over?

## LET'S GRAPH . . .

- Put Duos on the Y axis; Trios on the X axis
  - For your scale, use 3-4 squares per number
  - Use a dot ● for points that had NO leftovers
  - Use an X for points that had some leftovers
- Now, draw a line that connects only the dots



# Let's make our own PPC

Our society will make only houses and ice cream cones . . .

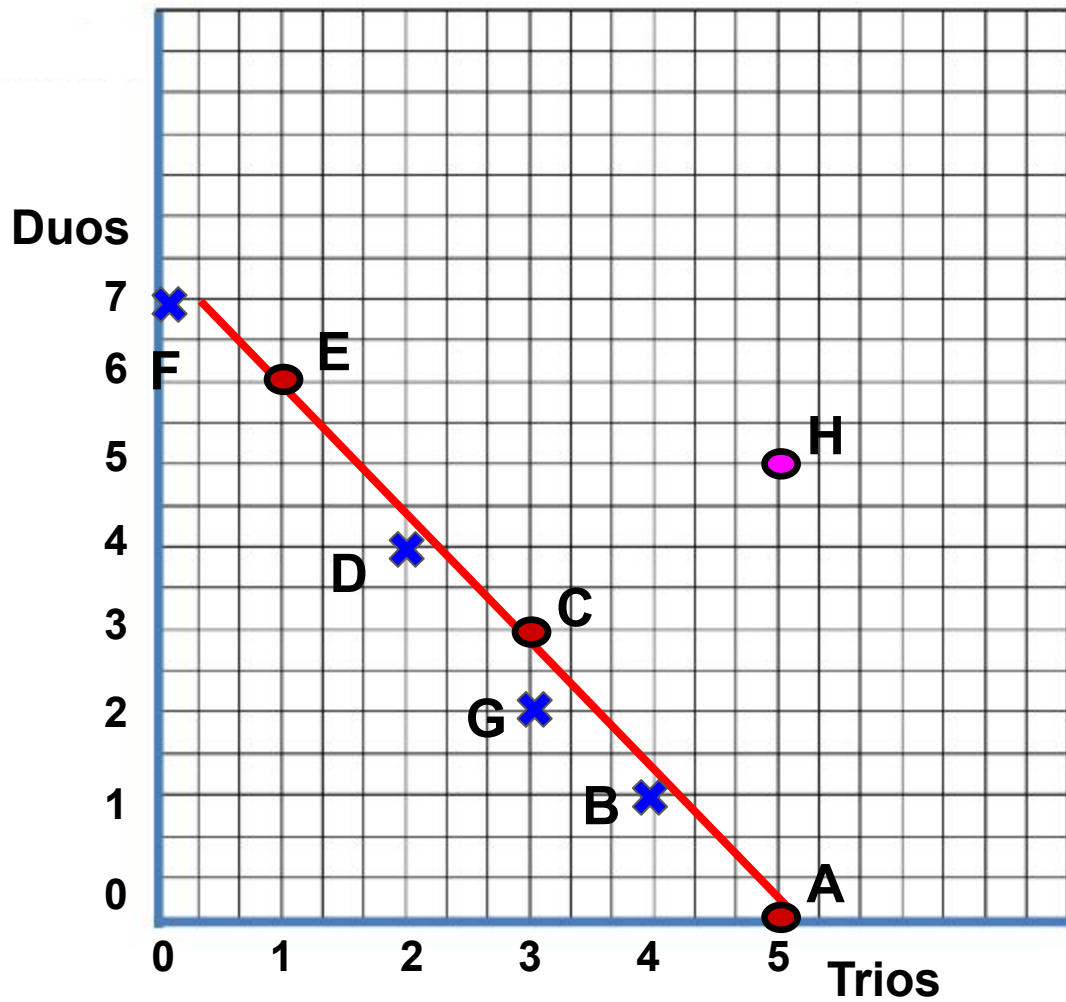
	Ice Cream Cones	Houses
Point A (Rd 1)		
Point B (Rd 2)		
Point C (Rd 3)		

# WEDNESDAY, AUG 24 | THURSDAY, AUG 25

- Warm up: TTYN re. this scenario: It's 11:00 p.m. and you've been studying for a very important test for 30 minutes but you're getting sleepy. How can you use economic reasoning to make a good decision about studying more or going to bed?
- *Learning targets: I can calculate opportunity cost and marginal benefit using data from PPCs or tables. I can explain what causes different shapes in a PPC and I can explain why a PPC could expand outward.*
- HW 1b due now: show me your handwritten work if not turned in on Canvas.
- 2nd Pd MAP testing in cafeteria: Ellis, Bennett,
- Quiz on Topics 1.1 and 1.2 next Tuesday (A) and Wednesday (B).



Debarf of Paper Clips





**ECONOMICS IS FUN!**

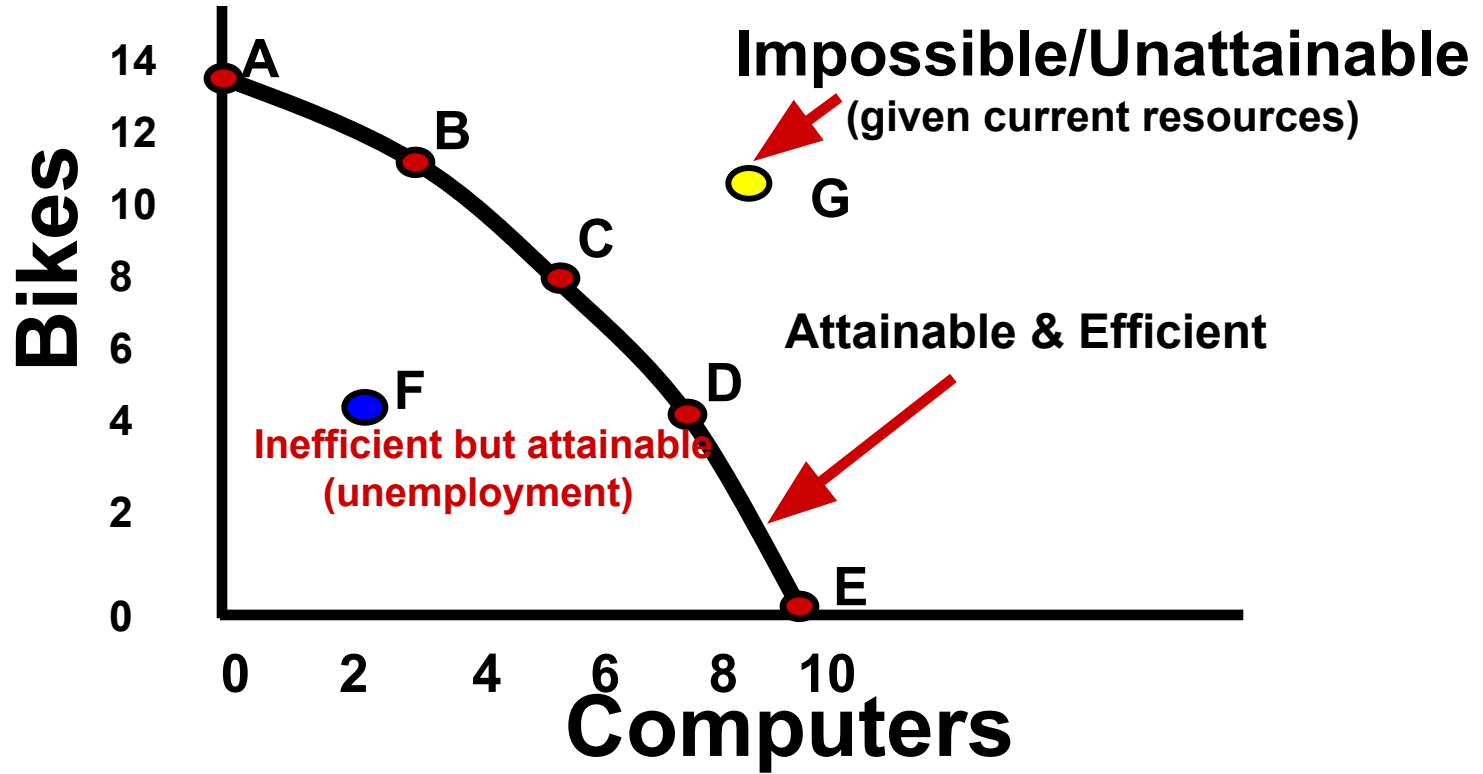
HOW MUCH FUN WILL YOU HAVE IN  
ECONOMICS WITH MS. BROWN?

So much fun you might vomit . . .



# Production Possibilities

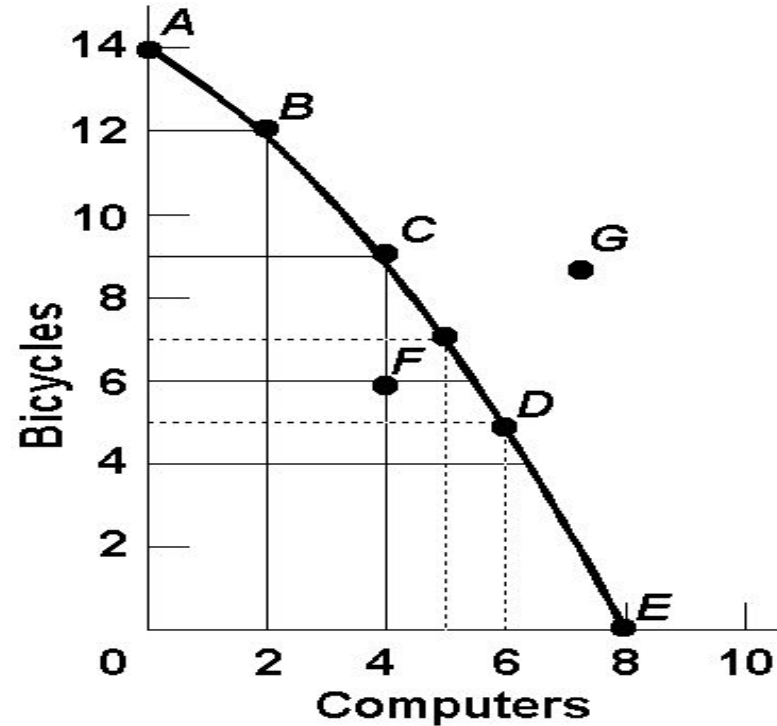
How does the PPC graphically demonstrate scarcity, trade-offs, opportunity costs, and efficiency?



# Opportunity Cost

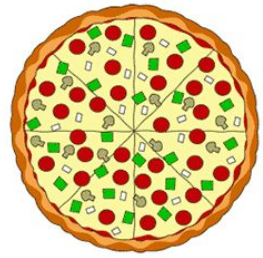
## Example:

1. The opportunity cost of moving from a to b is... **2 Bikes**
2. The opportunity cost of moving from b to d is... **7 Bikes**
3. The opportunity cost of moving from d to b is... **4 Computer**
4. The opportunity cost of moving from f to c is... **0 Computers**
5. What can you say about point G?  
**Unattainable**





# Production Possibilities



	A	B	C	D	E
CALZONES	4	3	2	1	0
PIZZA	0	1	2	3	4

- List the Opportunity Cost of moving from a-b, b-c, c-d, and d-e.
- Constant Opportunity Cost- Resources are easily adaptable for producing either good.
- Result is a straight line PPC (not common).

# Production Possibilities

	A	B	C	D	E
PIZZA	20	19	16	10	0
ROBOTS	0	1	2	3	4

- List the Opportunity Cost of moving from a-b, b-c, c-d, and d-e.
- Law of Increasing Opportunity Cost-
  - As you produce more of any good, the opportunity cost (forgone production of another good) will increase.
  - Why? Resources are NOT easily adaptable to producing both goods.
- Result is a bowed out (Concave) PPC.



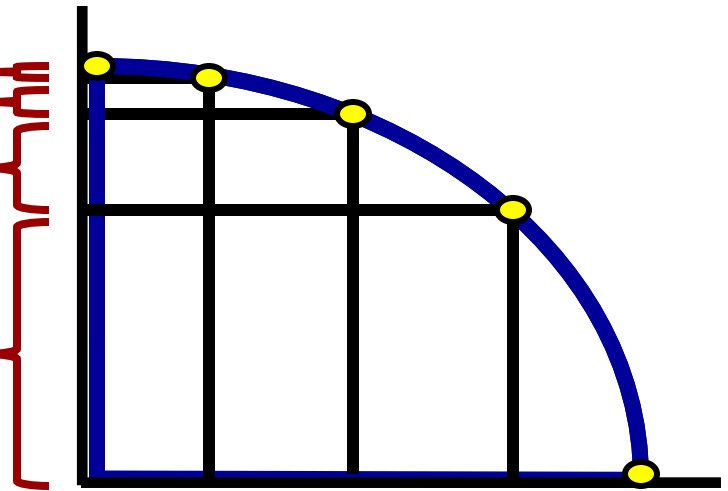
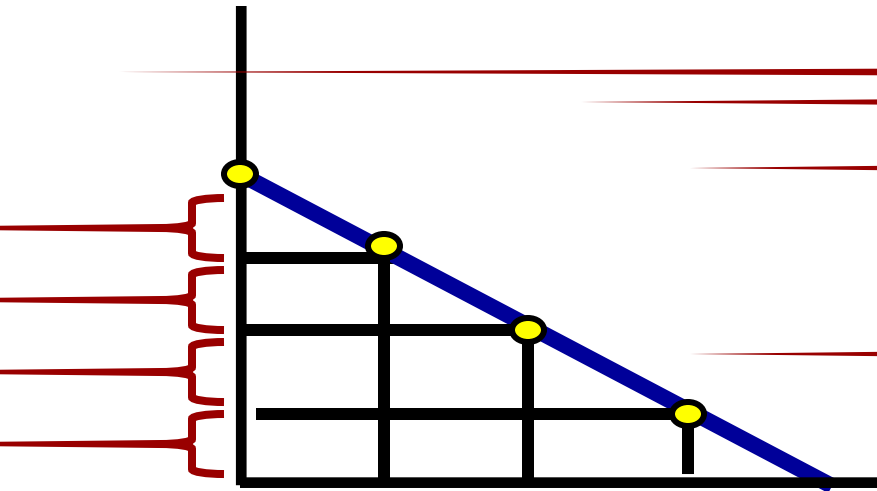
# Constant vs. Increasing Opportunity Cost

Cost

Which product would have a straight line PPC and which would be bowed out?

**Corn**

**Cactus**



**Wheat**

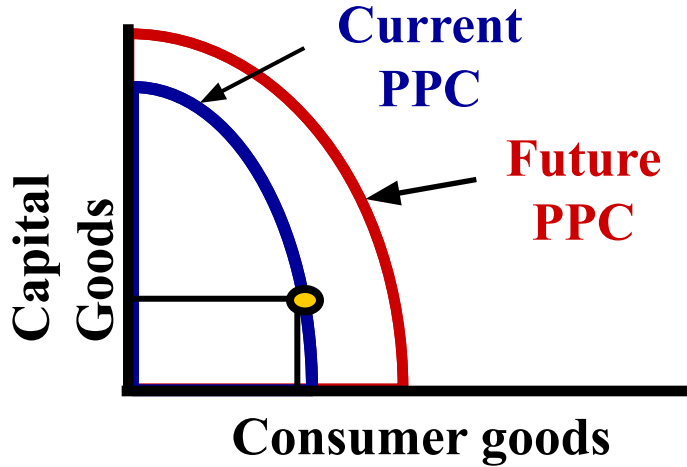
**Pineapples**

# Capital Stock and Future Growth

Countries that produce more capital stock (capital goods) will have more growth in the future.

**Panama – Favors**

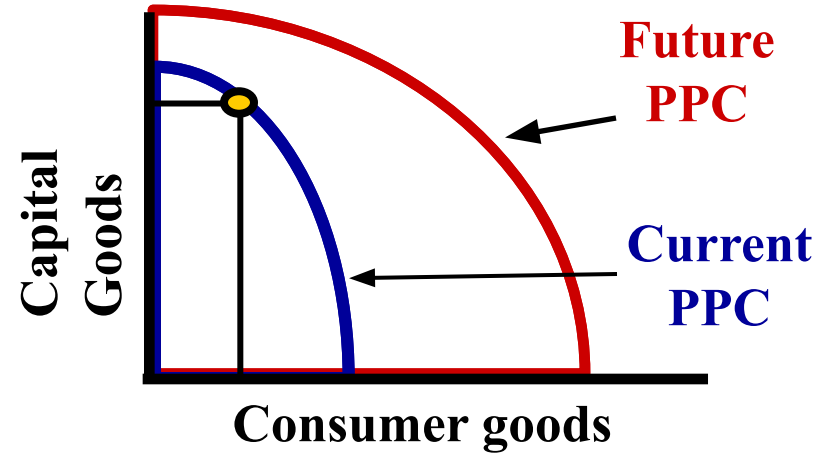
**Consumer Goods**



**Panama**

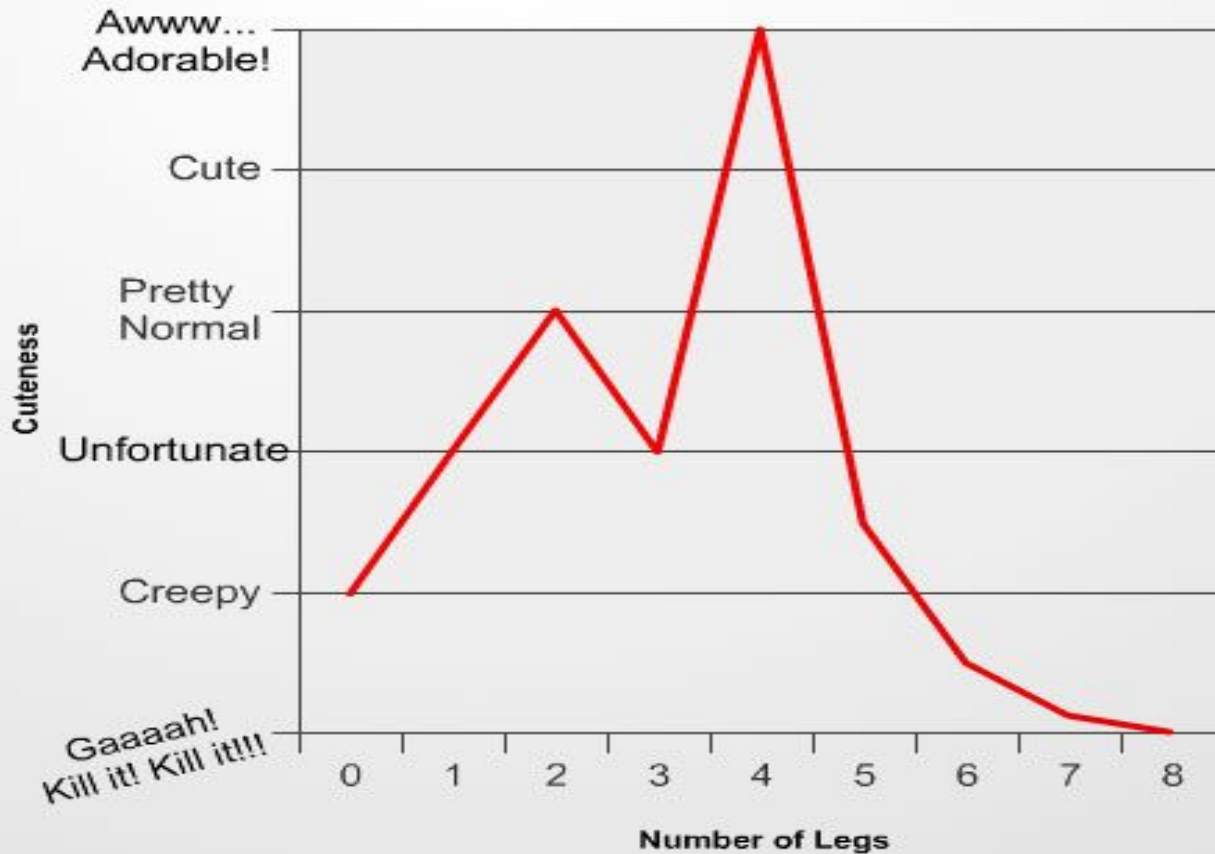
**Mexico – Favors**

**Capital Goods**



**Mexico**

# Cuteness vs. Number of Legs



# Welcome to Fun Sets!!



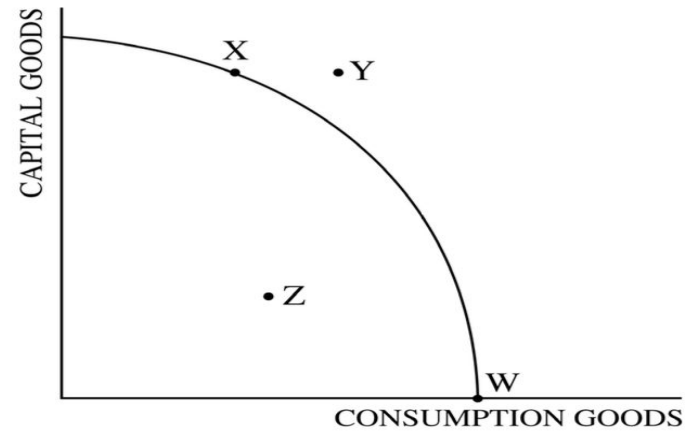
# 2008 Audit Exam

9. The concept of opportunity cost would no longer be relevant if
- (A) poverty in an economy no longer existed
  - (B) the supply of all resources were unlimited**
  - (C) resources were allocated efficiently
  - (D) real wages were flexible
  - (E) all current incomes were invested in technological research

46. Karen works part-time at a local convenience store and earns \$10 per hour. She wants to spend next Saturday afternoon attending a music concert. The full price of a concert ticket is \$75, but Karen was able to get a discounted price of \$50 from a friend who purchased the ticket but has become unable to attend. If Karen took 4 hours off from her job to attend the concert, what was her opportunity cost of attending the concert?

- (A) \$40
- (B) \$50
- (C) \$75
- (D) \$90
- (E) \$115

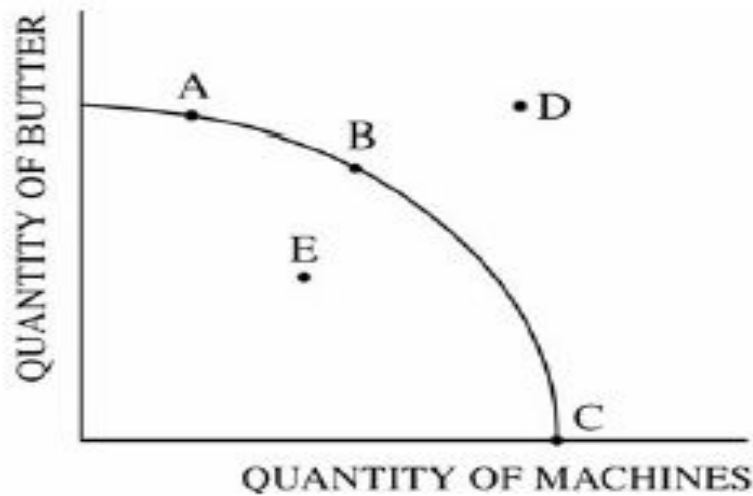
# 2012 AP Exam



45. The diagram above shows the production possibilities curve for an economy that produces only consumption and capital goods. All of the following statements about this economy are true EXCEPT:
- (A) Producing at point Z results in the underutilization of resources.
  - (B) The combination represented by point Y is unattainable, given the scarcity of resources.
  - (C) Resources are fully utilized at points W and X.
  - (D) Producing at point X will result in greater economic growth than will producing at point W.
  - (E) Point X represents the most efficient combination of the two goods that can be produced by this economy.**

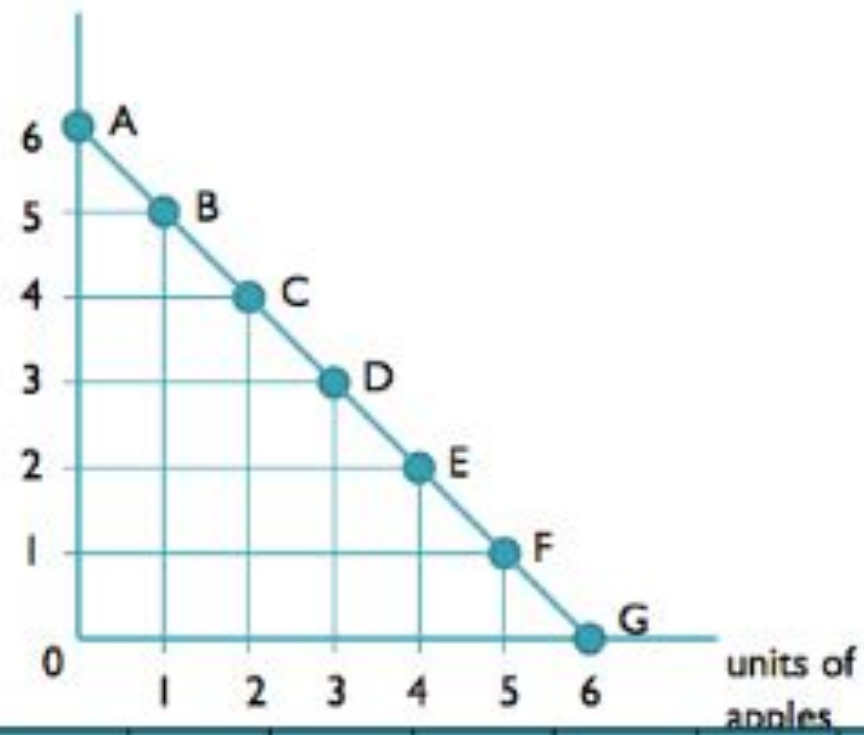
17. If resources were perfectly substitutable in all activities, which of the following would be true?
- (A) Output of all goods could be increased at zero opportunity cost.
  - (B) The production possibilities curve would be a straight line.
  - (C) Specialization and mutually beneficial trade would be impossible.
  - (D) No country or individual would have a comparative advantage in any activity.
  - (E) Scarcity of resources would be eliminated.





1. The diagram above shows the production possibilities curve for Country Y. Which of the following statements is true?
  - (A) If Country Y is producing at point C, it is using all its resources efficiently.
  - (B) The opportunity cost of producing more machines is constant.
  - (C) Producing at point C is the most preferable, because butter is a nondurable good.
  - (D) Country Y cannot produce at point E.
  - (E) The economy is not producing at its potential, since it is not producing at point D.

units of potatoes



	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>
units of potatoes	6	5	4	3	2	1	0
units of apples	0	1	2	3	4	5	6

# Finland Friday, Aug. 26| Montreal Monday, Aug. 27

Warm up: TTYN about a trade that you have made with someone that did not involve money.

*Learning targets: I can explain what causes economic growth and how to show that on a PPC. I can explain the difference between capital and consumer goods and the difference between allocative and productive efficiency. **Topic 1.2** I can define absolute advantage and comparative advantage. **Topic 1.3***

Agenda: PPC graphing practice with whiteboards; notes on trade; specialization demonstration.

- Quiz on Topics 1.1 and 1.2 this Tuesday (A) and Wednesday (B).
- If you joined this class the first week of school, your summer assignment is due August 31.

# ECONOMIC GROWTH (GOAL OF ALL COUNTRIES!)

- Economic growth: the ability of an economy to increase its total real output or real GDP from year to year
- Economic growth comes from several sources:
  1. Increase in the quantity or quality of resources, for example:
    - Improvement in education, experience and skill level of labor (human capital)
    - Greater amounts of physical capital or natural resources
  2. Improved technology or productivity, for example:
    - Access to broadband internet connectivity

54. An increase in which of the following would LEAST likely increase labor productivity?

- (A) Physical capital
- (B) Human capital
- (C) Technological improvements
- (D) Educational achievement
- (E) The labor force

*I can explain the difference between capital and consumer goods and the difference between allocative and productive efficiency.*

# Capital Goods (Stock) vs. Consumer Goods

Capital goods (stock):  
machines, tools,  
equipment and structures  
that are used to produce  
goods and services; i.e.,  
they help increase future  
production

Consumer goods: Goods  
used for final  
consumption; i.e., goods  
that are not used for  
further processing or  
production.

# Productive vs. Allocative Efficiency

- **Productive efficiency** is concerned with the optimal method of producing goods; producing goods at the lowest cost. Think: on the curve vs. inside the curve.
- **Allocative efficiency** is concerned with the optimal distribution of goods, services and resources. Think: where on the curve (e.g., more capital goods or more consumer goods?).



# Production Possibilities

## Key Assumptions Revisited

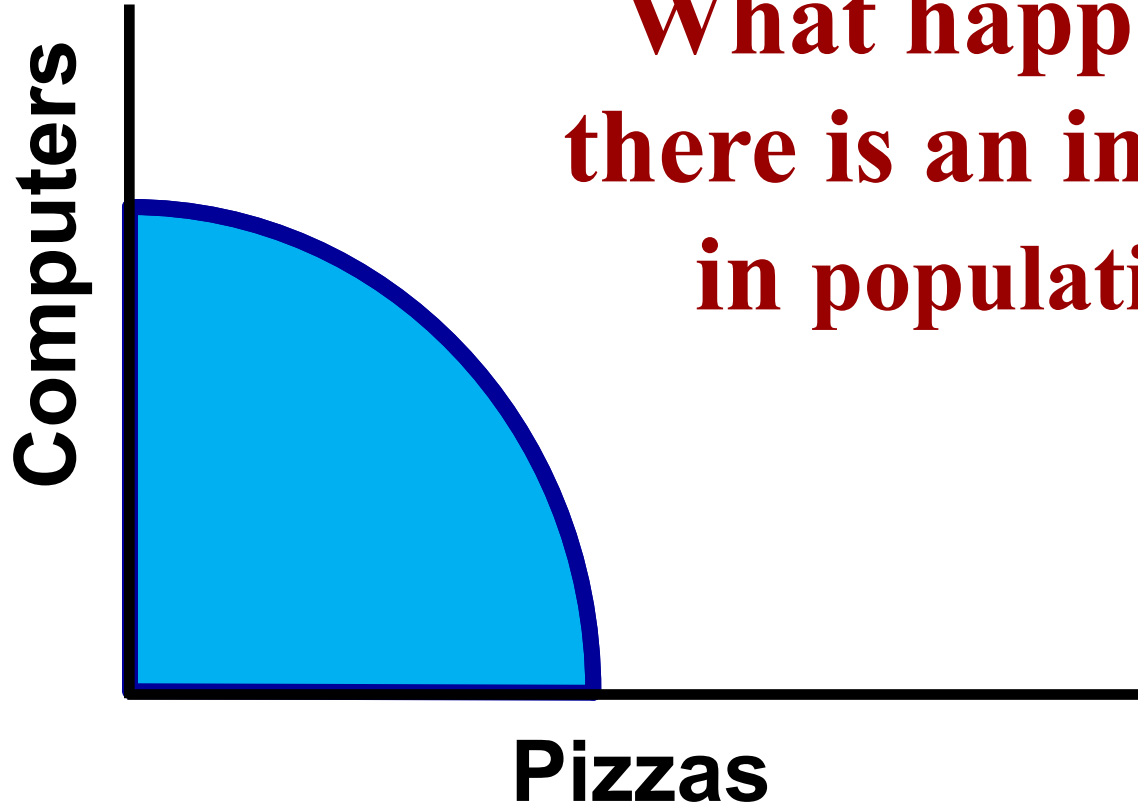
1. Only two goods can be produced
2. Fixed Resources (4 Factors) & Technology

What if there is a change?

### 3 Shifters of the PPC

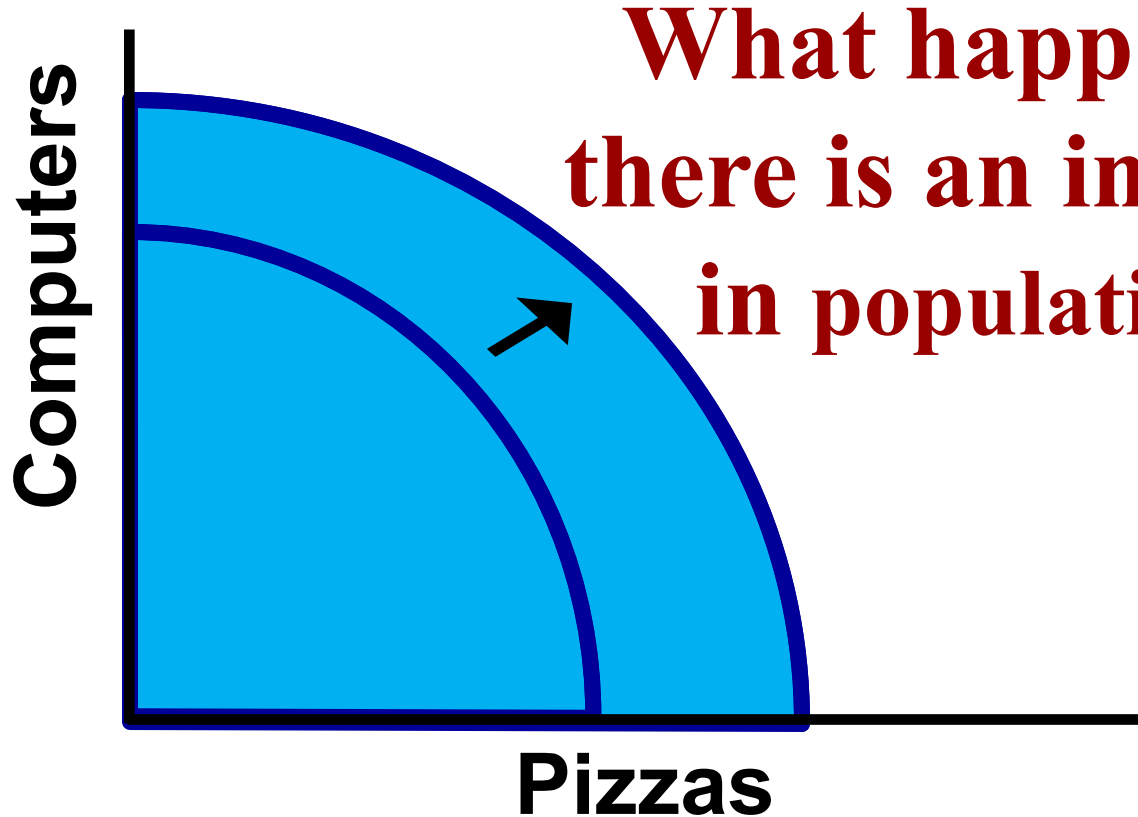
1. Change in resource quantity or quality
2. Change in Technology or productivity

# Production Possibilities



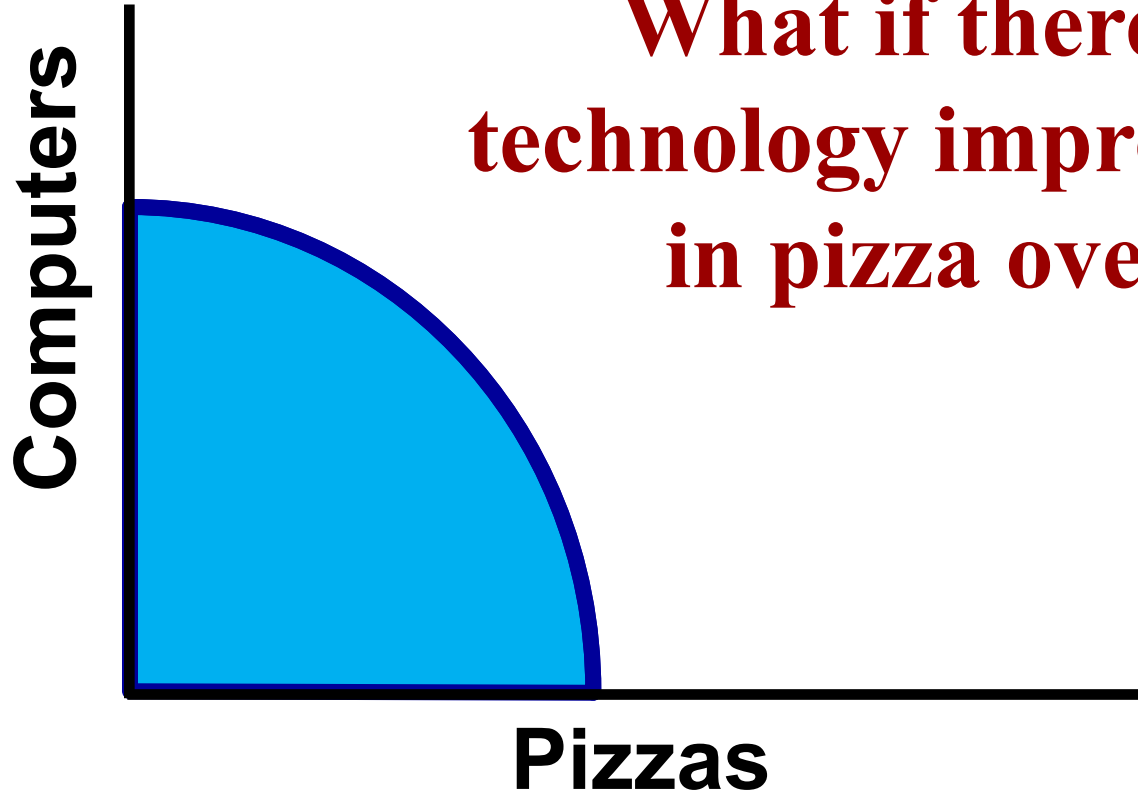
**What happens if  
there is an increase  
in population?**

# Production Possibilities



**What happens if there is an increase in population?**

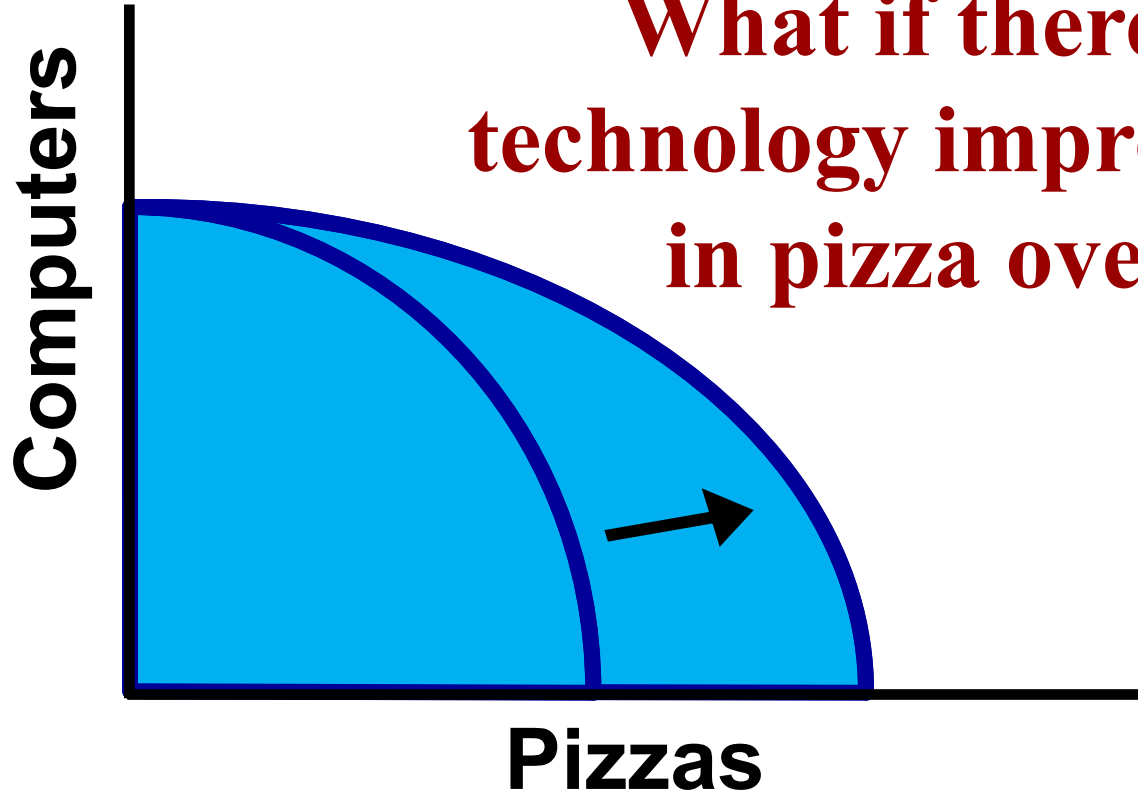
# Production Possibilities



**What if there is a  
technology improvement  
in pizza ovens?**

# Production Possibilities

**What if there is a  
technology improvement  
in pizza ovens?**



# Whiteboard Practice

# PPC Practice

**Draw a PPC showing changes for each of the following:**

## **Pizza and Computers (3)**

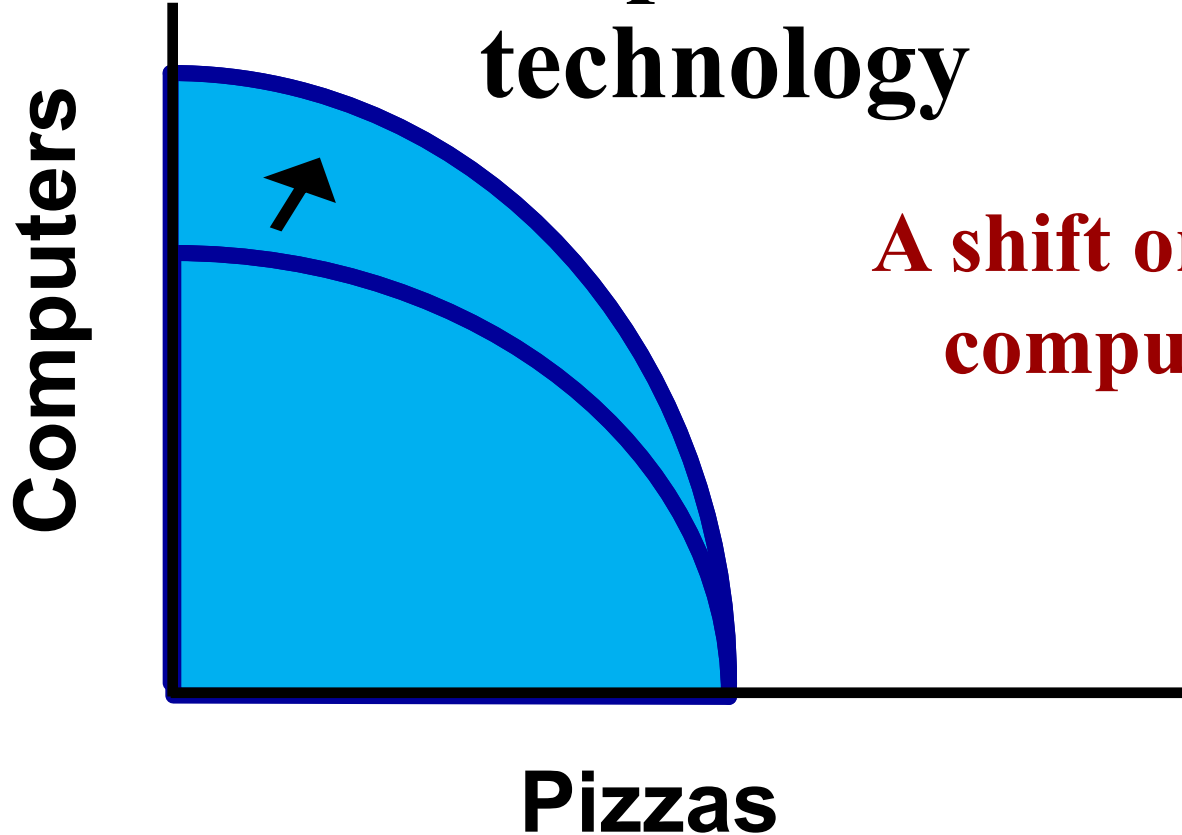
- 1. New computer making technology**
- 2. Decrease in the demand for pizza**
- 3. Mad cow disease kills 85% of cows**

## **Consumer goods and Capital Goods (4)**

- 4. Destruction of power plants leads to severe electricity shortage**
- 5. Faster computer hardware**
- 6. Many workers unemployed**
- 7. Significant increases in education**

# Question #1

## New computer making technology

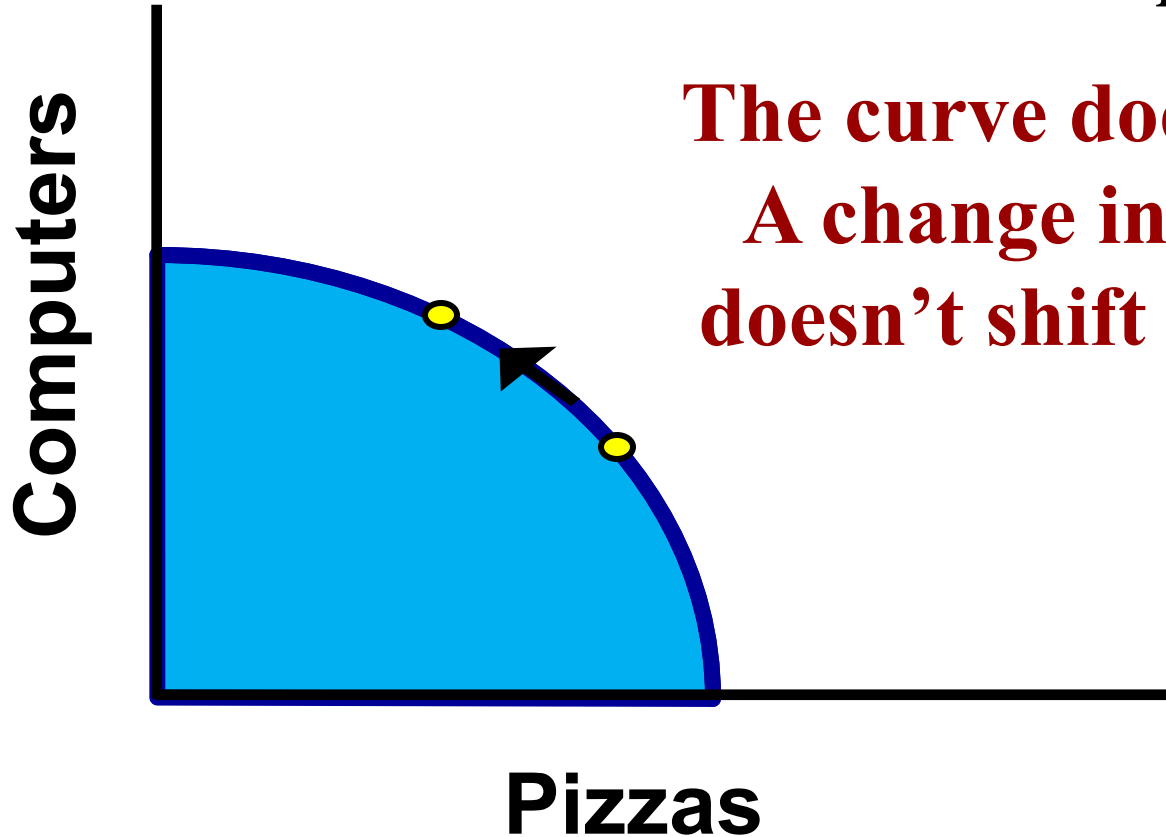


**A shift only for computers.**



# Question #2

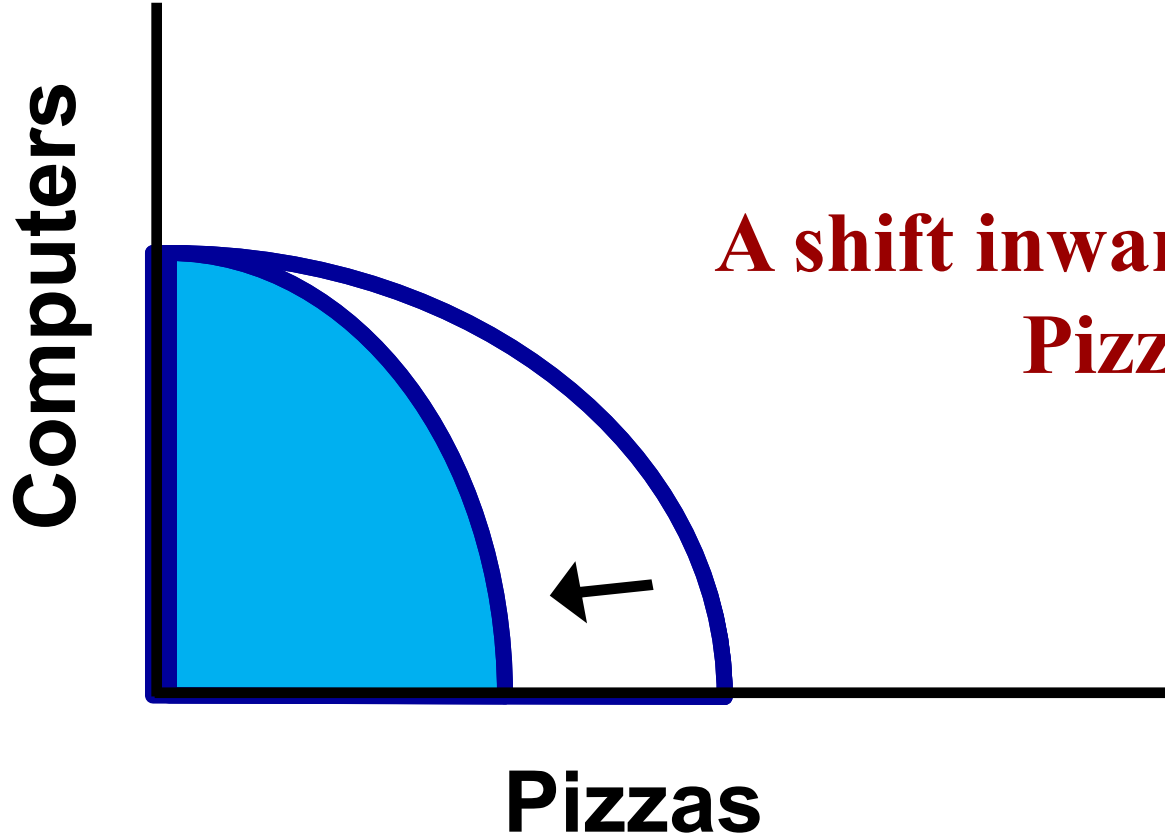
## Decrease in the demand for pizza



**The curve doesn't shift!  
A change in demand  
doesn't shift the curve.**

# Question #3

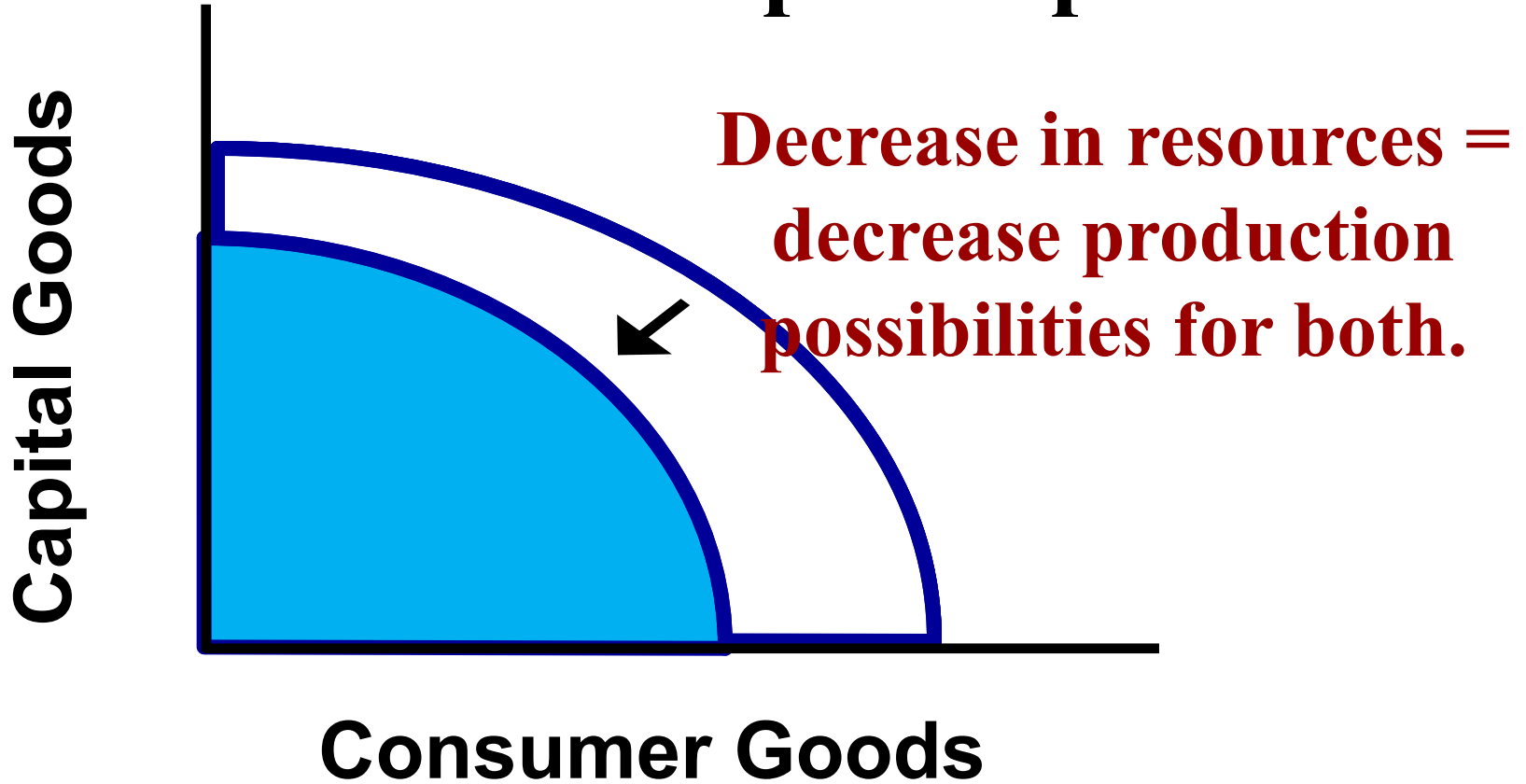
Mad cow disease kills 85% of cows



**A shift inward only for  
Pizza.**

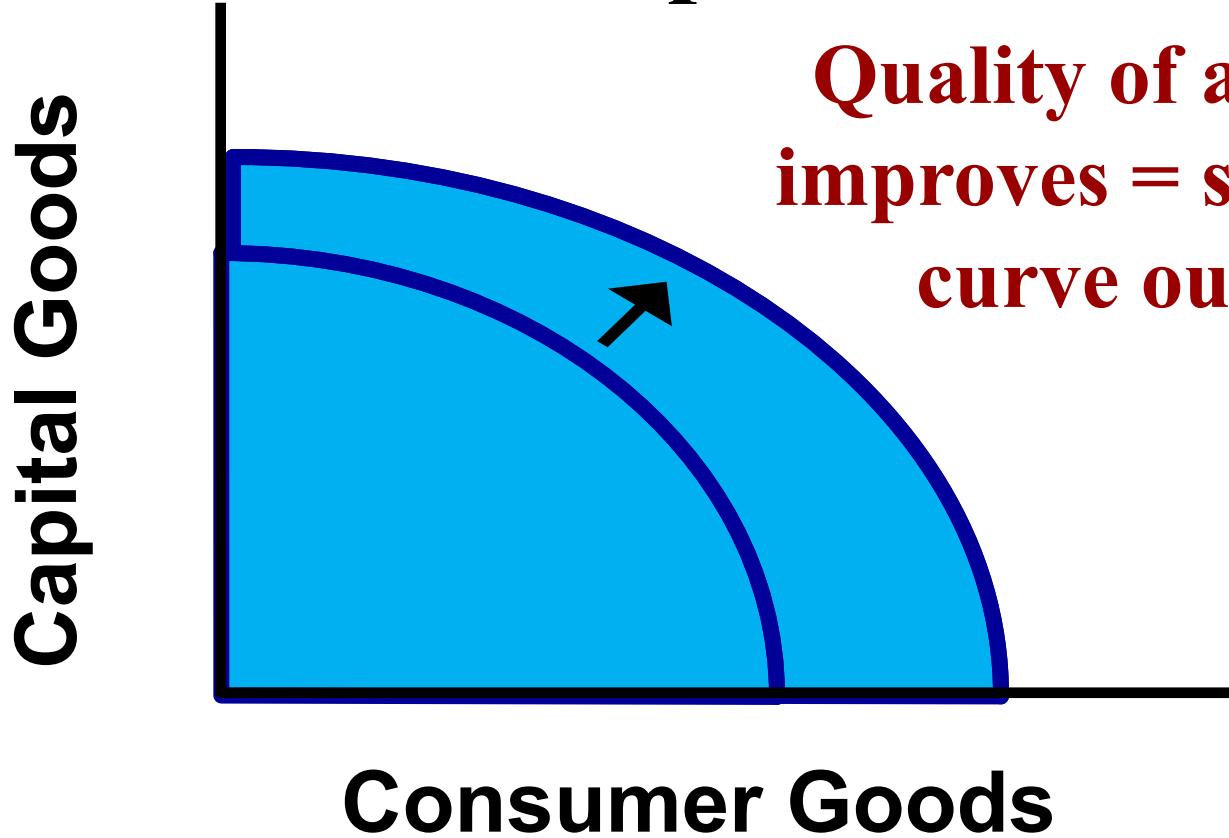
# Question #4

## Destruction of power plants



# Question #5

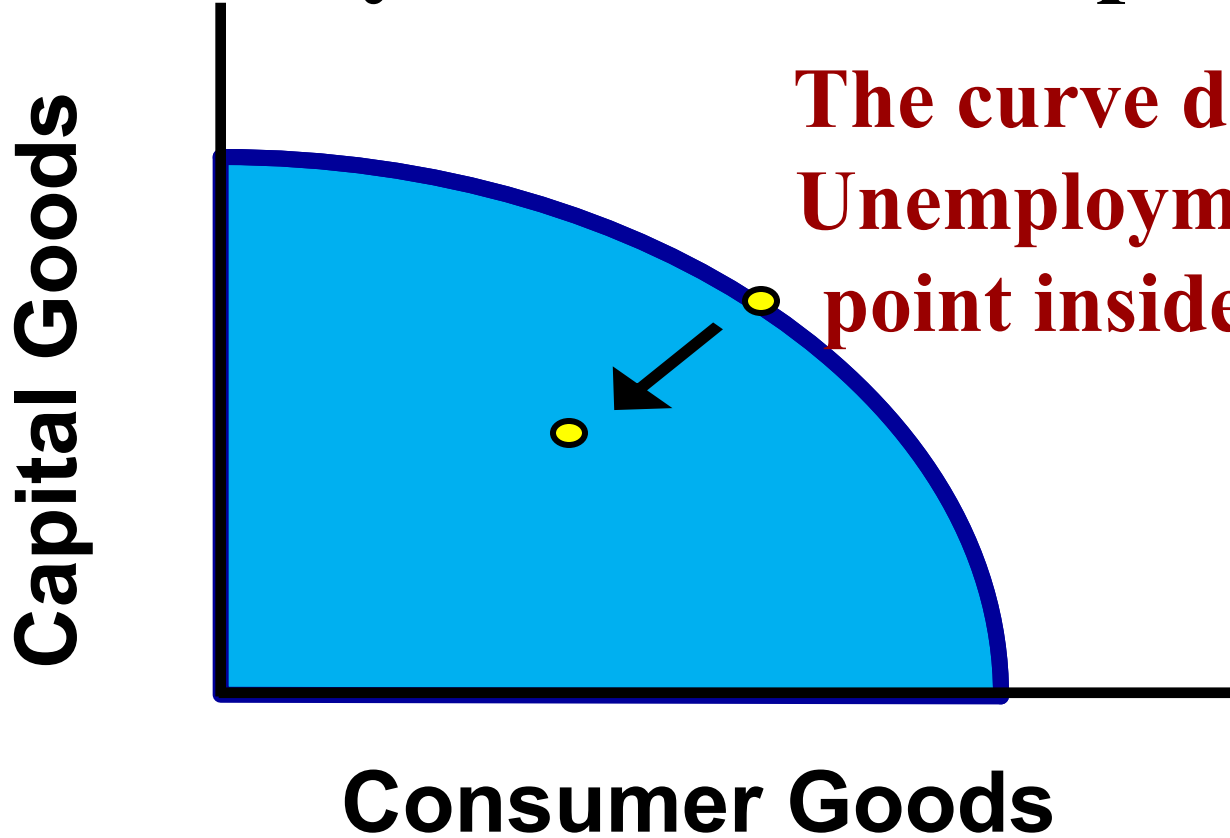
## Faster computer hardware



**Quality of a resource improves = shifting the curve outward.**

# Question #6

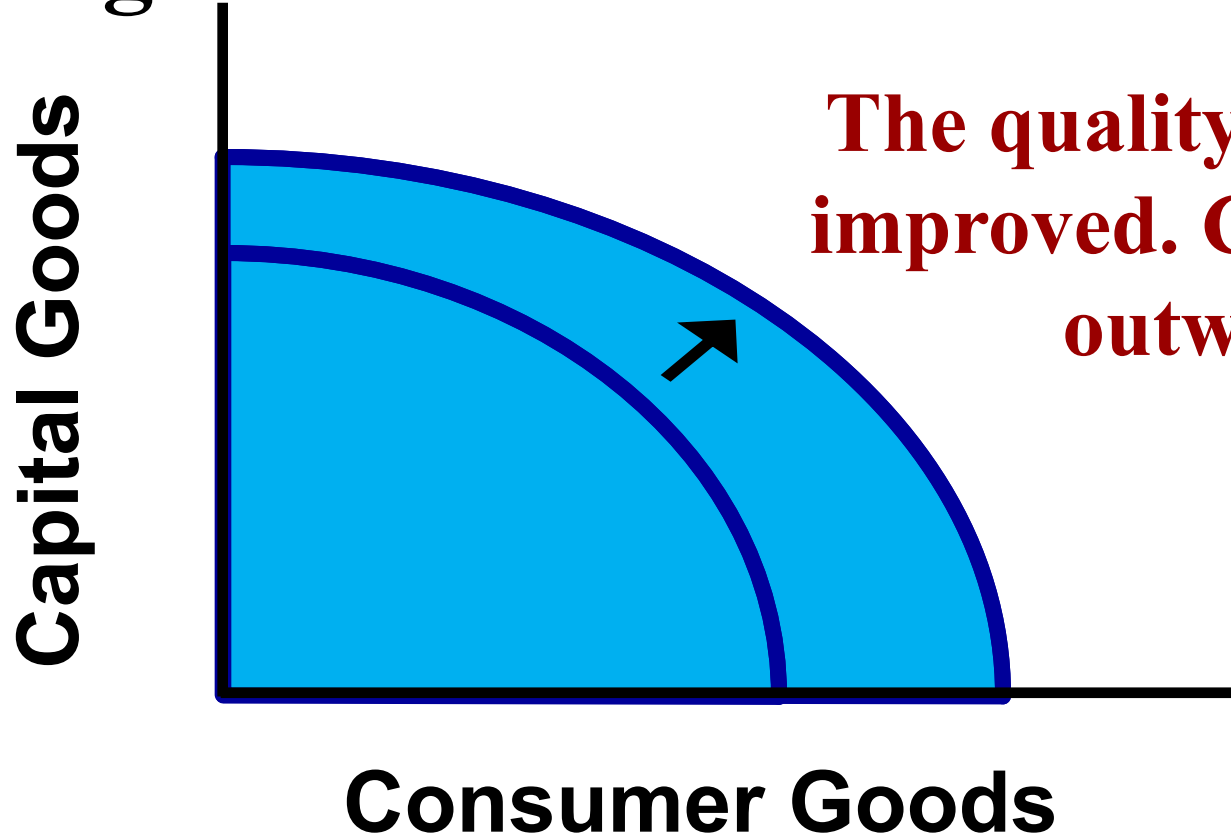
## Many workers unemployed



**The curve doesn't shift!  
Unemployment is just a  
point inside the curve.**

# Question #7

## Significant increases in education



**The quality of labor is improved. Curve shifts outward.**

**LET'S Talk Trade**

# Handy Dandy Guide to Economic Reasoning

1. People *choose*.
2. People's choices involve *costs*.
3. People respond to *incentives* in predictable ways.
4. People create *economic systems* that influence individual choices and incentives.
- 5. People gain when they *trade* voluntarily.**
6. People's choices have *consequences* that lie in the *future*.



# Voluntary & Non-fraudulent Exchange

- **Voluntary exchange:** when individuals and businesses freely choose to exchange goods, services, resources, etc. for something of value (usually money)
- **Non-fraudulent exchange** occurs when both parties have complete information about what is being traded and its value (i.e., no fraud or cheating).

# Voluntary Exchanges—Think About It



- When trade is voluntary and non-fraudulent, both parties benefit and are better off after the trade than they were before the trade.
- Remember the elbow-bump market?

# Benefits of Voluntary Exchange:

- Encourages increased productivity and efficiency
- Encourages technological inventions and innovations

# Specialization Activity

Round 1: Draw as many houses as you can with your right hand in 40 seconds.

Round 2: Draw as many cars as you can with your left hand in 40 seconds.

What is your opportunity cost for each house?

What is your opportunity cost for each car?

How might right-handed students and left-handed students specialize and trade?

