

# Economic Decision-Making:

## Using a Production Possibility Curve to Think about Choices

(High School Economics Lesson 4, Unit 1)



**Oakland**Schools

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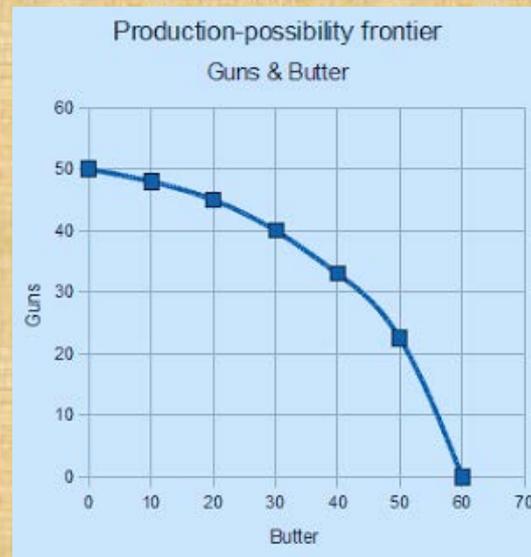
# A World of Scarce Resources

- Individuals, governmental officials, businesses, and economists continually strive to increase productivity and efficiency because an economy has **limited** resources, which can be combined in various ways to produce a variety of goods and services.
- Deciding what to produce requires **choices** and involves **opportunity costs** and tradeoffs for nations, businesses, and individuals.



# Production Possibilities Curve/Frontier

- Economists use a simple model to describe an economy's possible production, current production, and potential production called the **Production Possibilities Curve** or **Production Possibilities Frontier**.
- The model shows the possible combinations of the 2 types of goods that can be produced when available resources are employed fully and efficiently.



# Production Possibility Curve/Frontier

**Production possibilities** tables and curves are used to illustrate the economizing problem of scarcity. The curve and points on the line assume:

1. Nation/business is operating efficiently (full employment and full production)
2. Resources are fixed in quantity and quality
3. Technology is constant during analysis
4. Nation/business is producing only TWO types of products (ex: farm products and manufactured goods)
  - It is possible to produce a combination of these two goods.

# Production Possibilities Data Schedule

**After School Earnings      Class Grades**

\$0 (0 hours)	A+ (___ hours)
\$20 (2 hours)	A (___ hours)
\$40 (___ hours)	B (6 hours)
\$60 (___ hours)	C (4 hours)
\$80 (8 hours)	D (___ hours)
\$100 (10 hours)	F (___ hours)



# Production Possibilities Data Schedule

**After School Earnings      Class Grades**

\$0 (0 hours)	A+ (10 hours)
\$20 (2 hours)	A (8 hours)
\$40 (4 hours)	B (6 hours)
\$60 (6 hours)	C (4 hours)
\$80 (8 hours)	D (2 hours)
\$100 (10 hours)	F (0 hours)



# Construct a PPC Graph

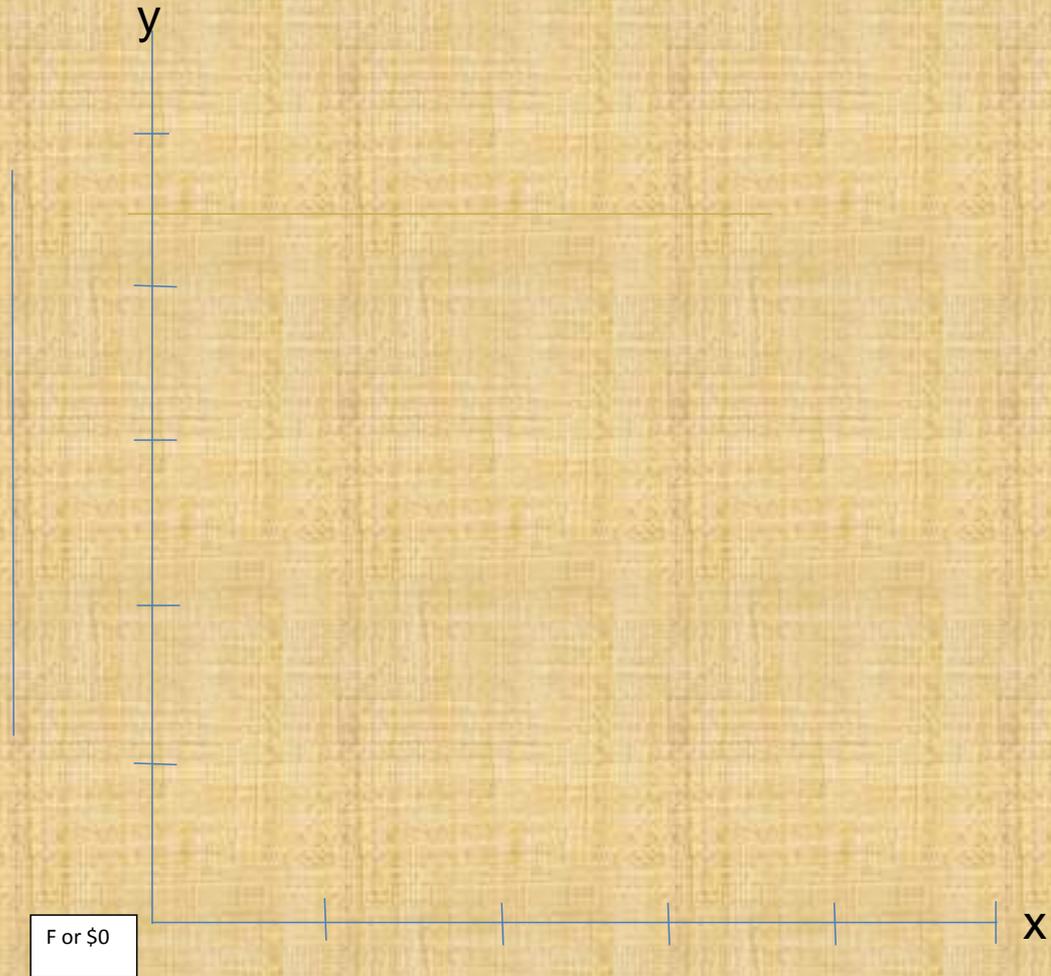
## Steps to Creating the PPC or PPF

1) Title Graph

2) Label Axis

- X axis- After School Earnings
- Y axis- Grades

3) Label increments



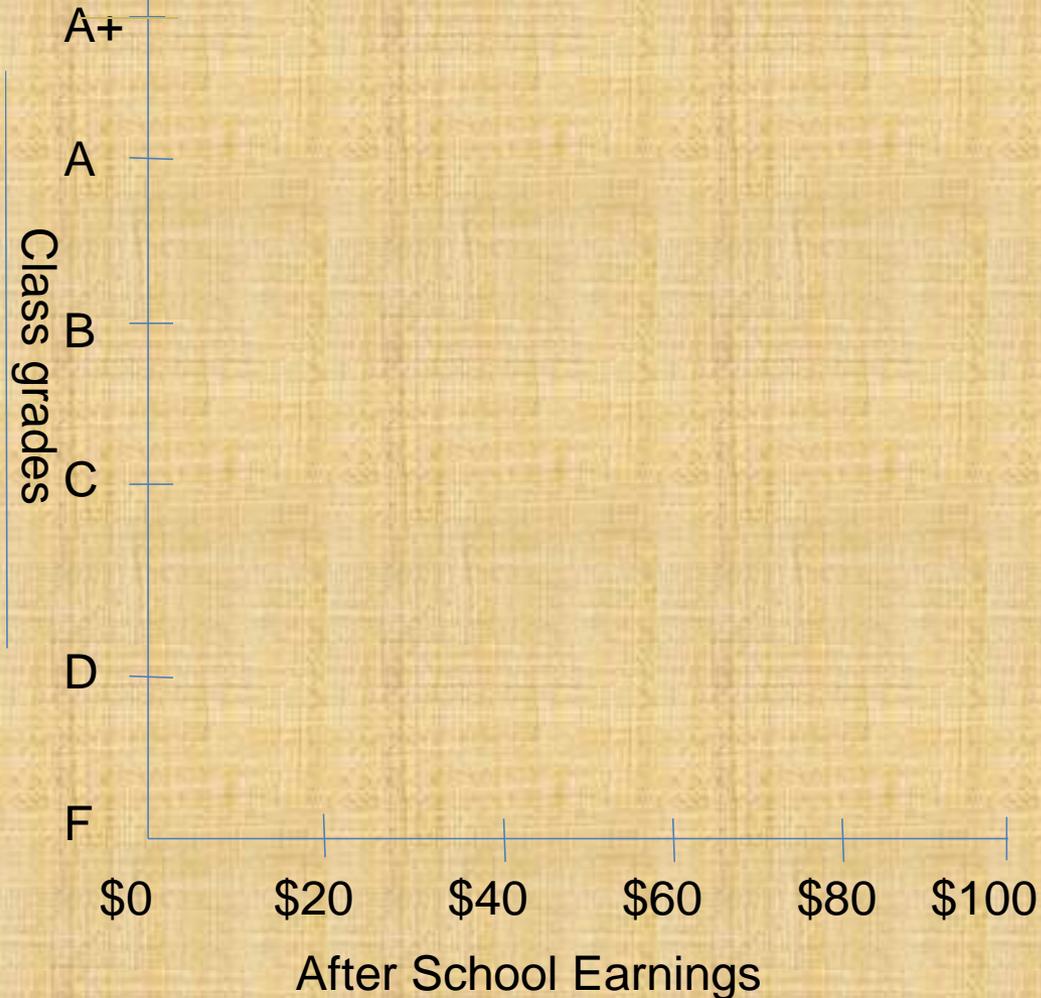
# Construct a PPC/PPF Graph

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## Check your work!

Now, plot the points.

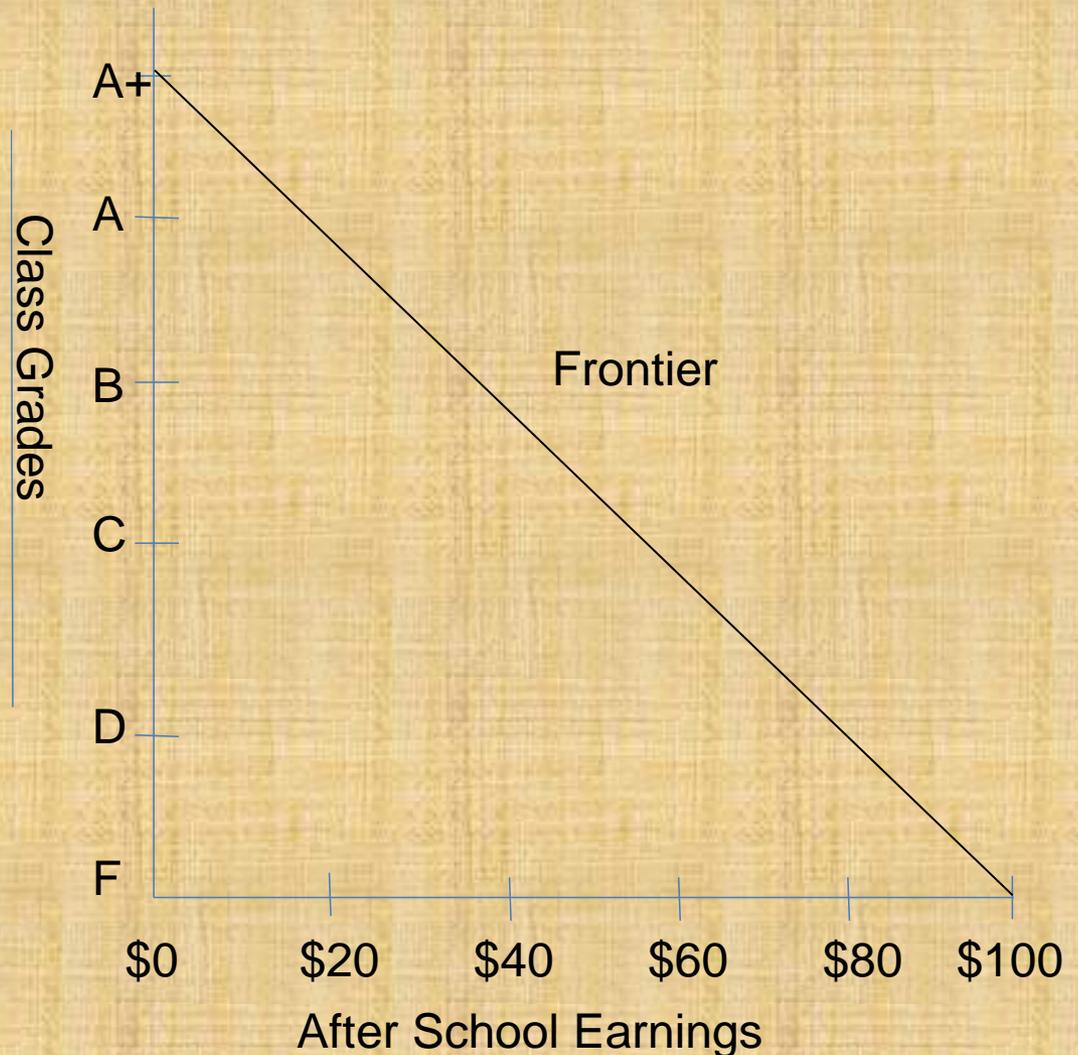
Remember the (X and Y axis) plotting tips from math class



**Next, connect the points to create a frontier.**

- **Efficiency:** producing the maximum possible output from available resources
- *The curve (the line)* represents what is attainable and efficient.
- The points along the line represent maximum possible combinations of the two goods without new technology or growth.

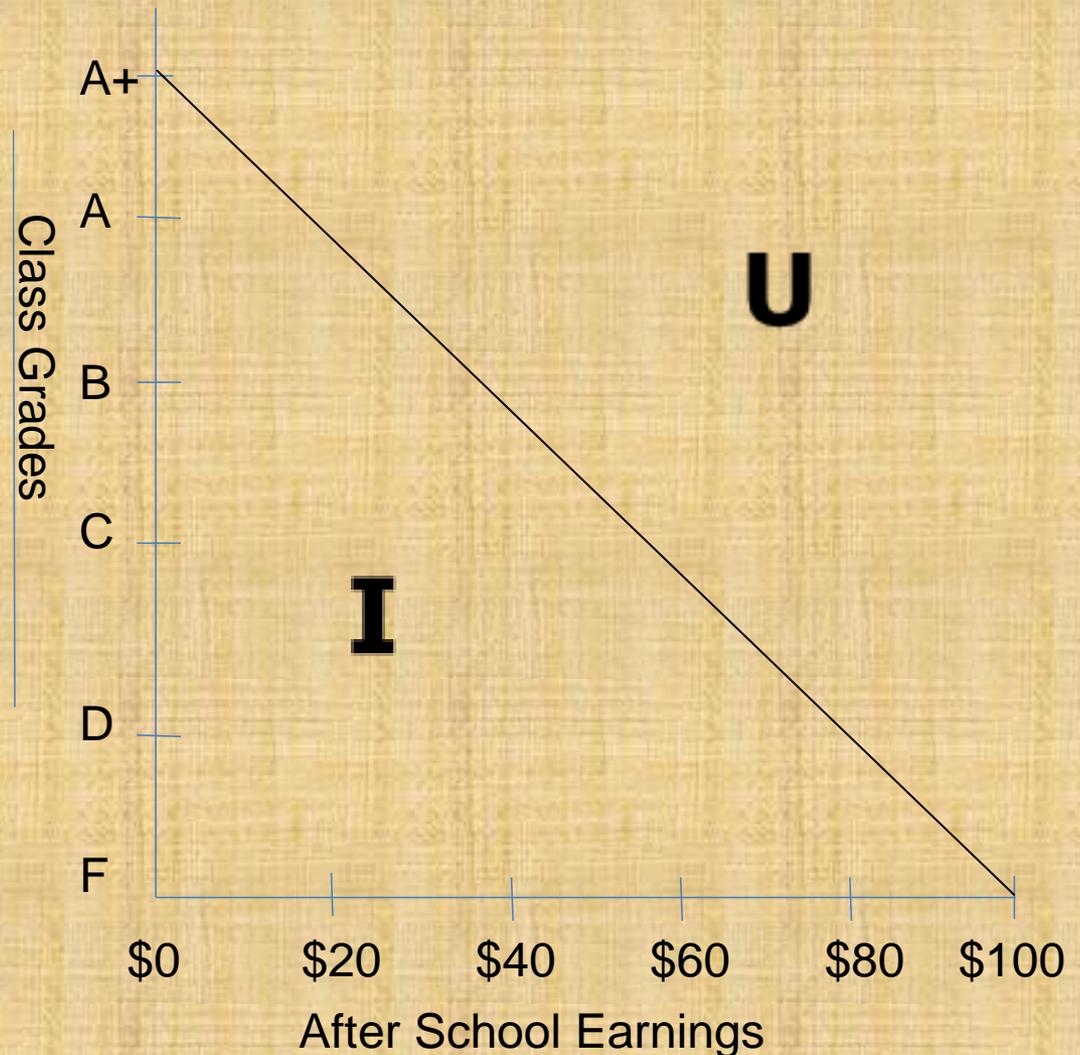
## Spending Time After School



# Inefficient or Unattainable

## Spending Time After School

- **I** represents inefficient use of resources, but are attainable.
  - Points inside the curve represent underemployment or unemployment of resource available to the society at that time.
- **U** represents unattainable combinations.
  - Points outside the curve cannot be attained, the nation/business does not have the available resources to produce at that level.



# PPC/PPF Application

What is the  
***BEST*** combination?





# Rules



- Each team has six pieces of paper to produce either paper airplanes or paper footballs.
- Each team can produce one plane or two footballs with each sheet.
- Once the product is made, the team will select one kicker/thrower.
- The thrower/kicker's job is “move” the product to the identified location. Footballs will be “kicked” while airplanes will be “thrown” from an identified location. Your teacher will show you where to kick/throw from and the desired location to which the product must be moved.
- Airplanes that make it into the box successfully are worth **two** points
- Footballs that make it into the box successfully are worth **three** points.

**Resources available: Your business has 6 pieces of paper to produce either paper airplanes or paper footballs.**

**What are your production possibilities?**

<b>Sheets of Paper</b>	<b>Airplanes</b>	<b>Footballs</b>
6		
6		
6		
6		
6		
6		
6		

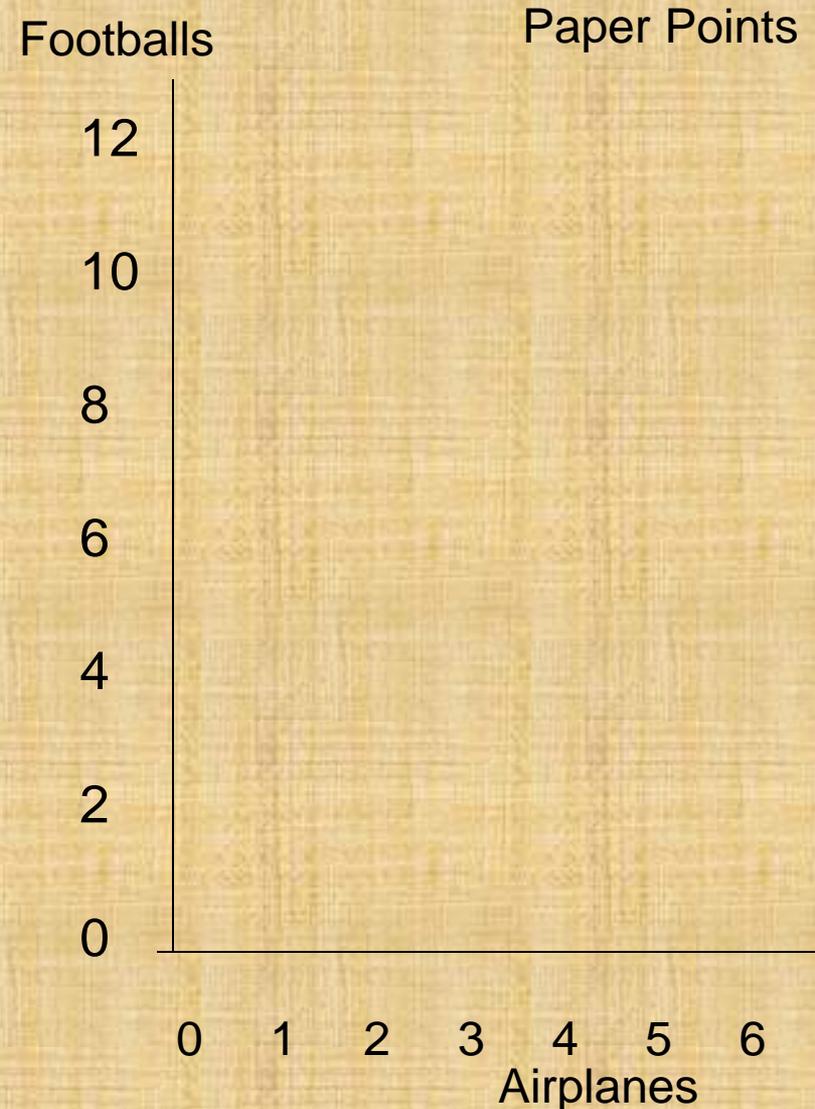
**Resources available: Your business has 6 pieces of paper to produce either paper airplanes or paper footballs.  
What are your production possibilities?**

<b>Sheets of Paper</b>	<b>Airplanes</b>	<b>Footballs</b>
6	6	0
6	5	2
6	4	4
6	3	6
6	2	8
6	1	10
6	0	12

# Deriving a PPF/PPC

## Steps:

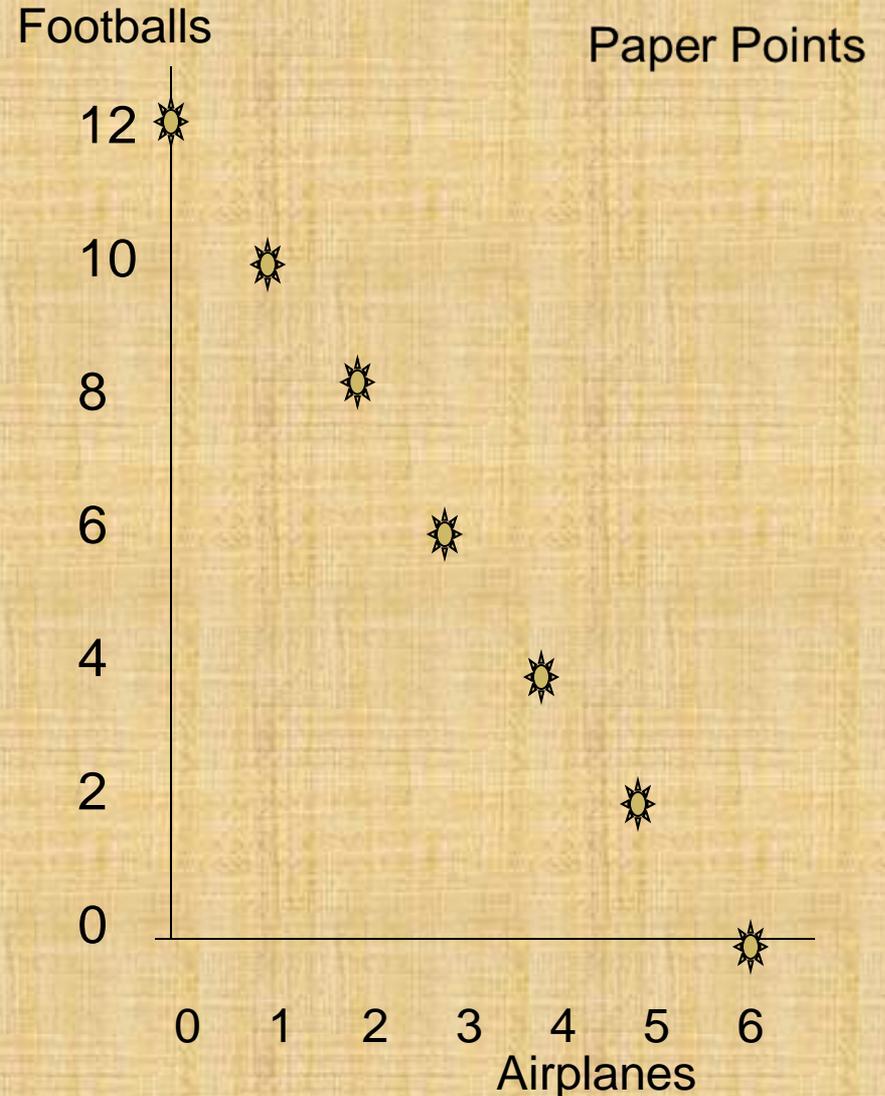
1. Title your graph
2. Place each good on an axis
3. Use the schedule to plot the points
4. **CONNECT THE DOTS** to form a curve



# Deriving a PPF/PPC

## Steps:

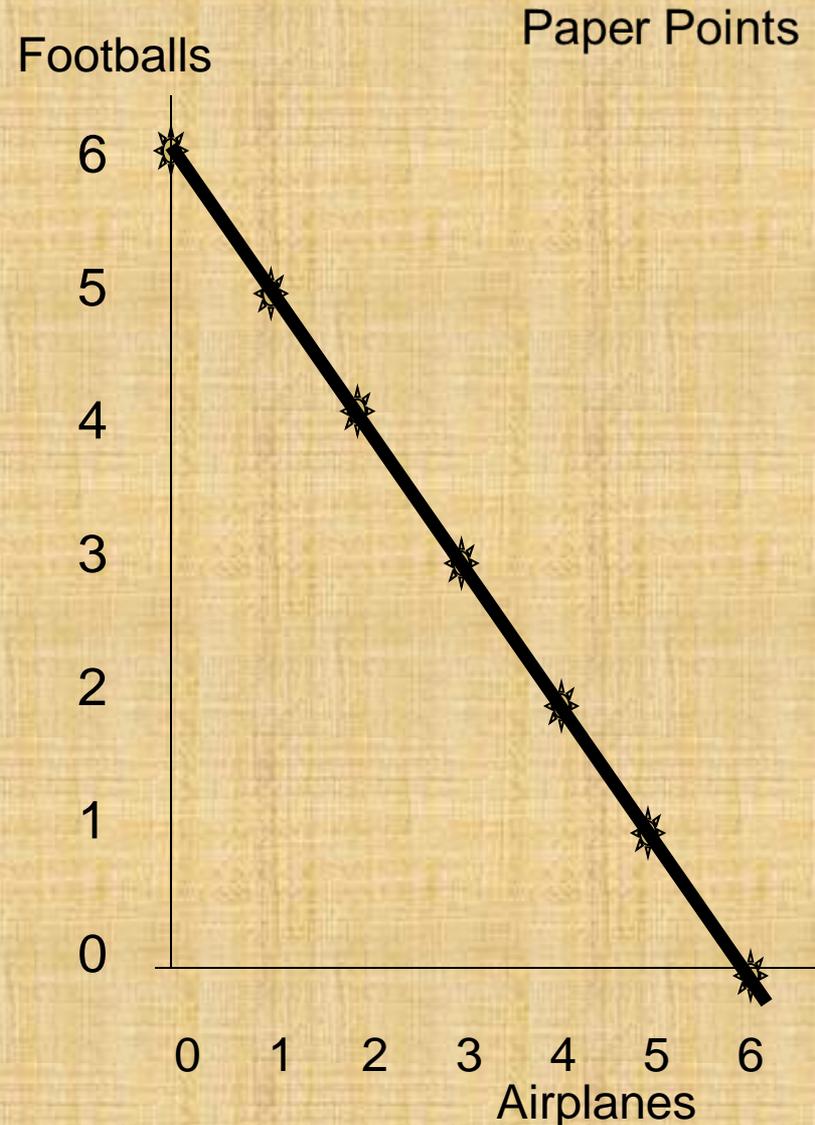
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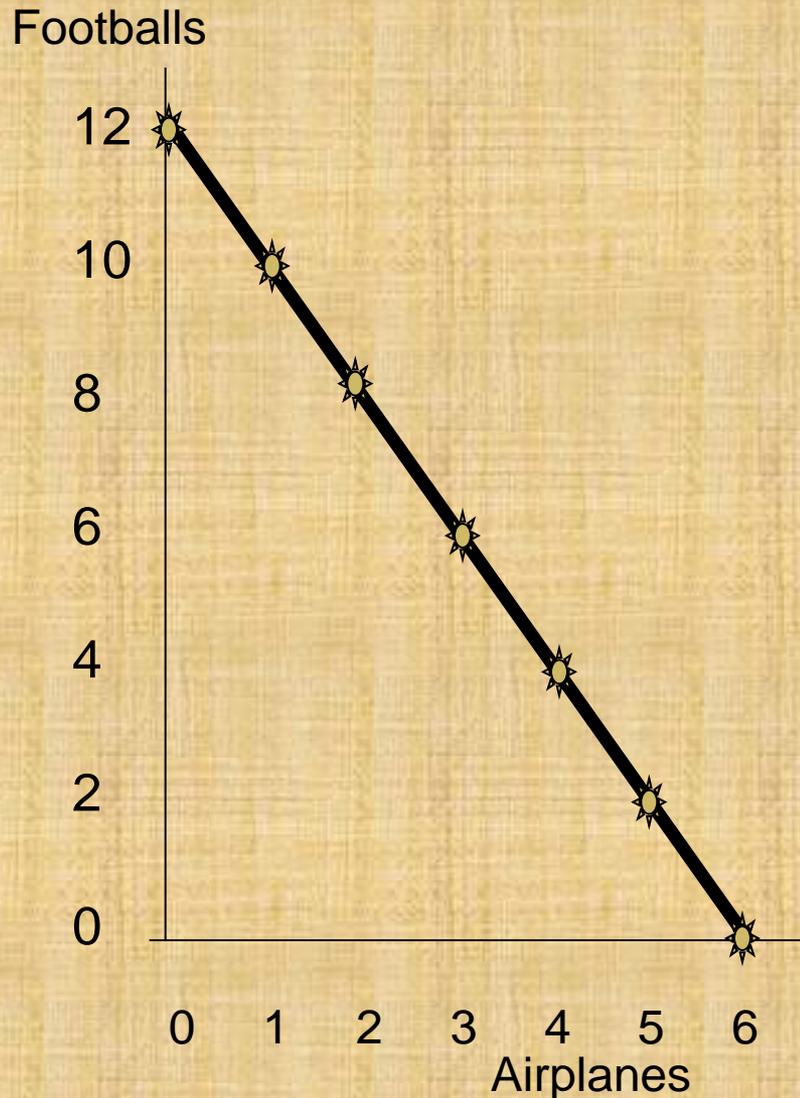
# Deriving a PPF/PPC

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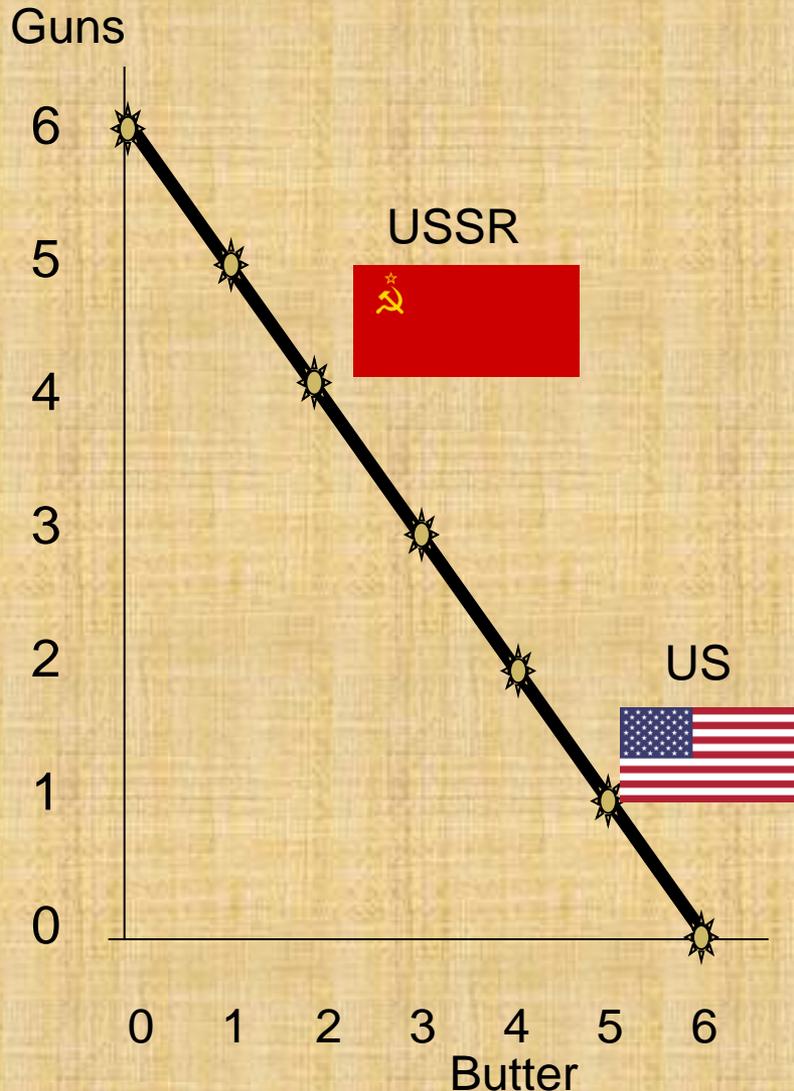


# Production Possibilities Curve or Frontier



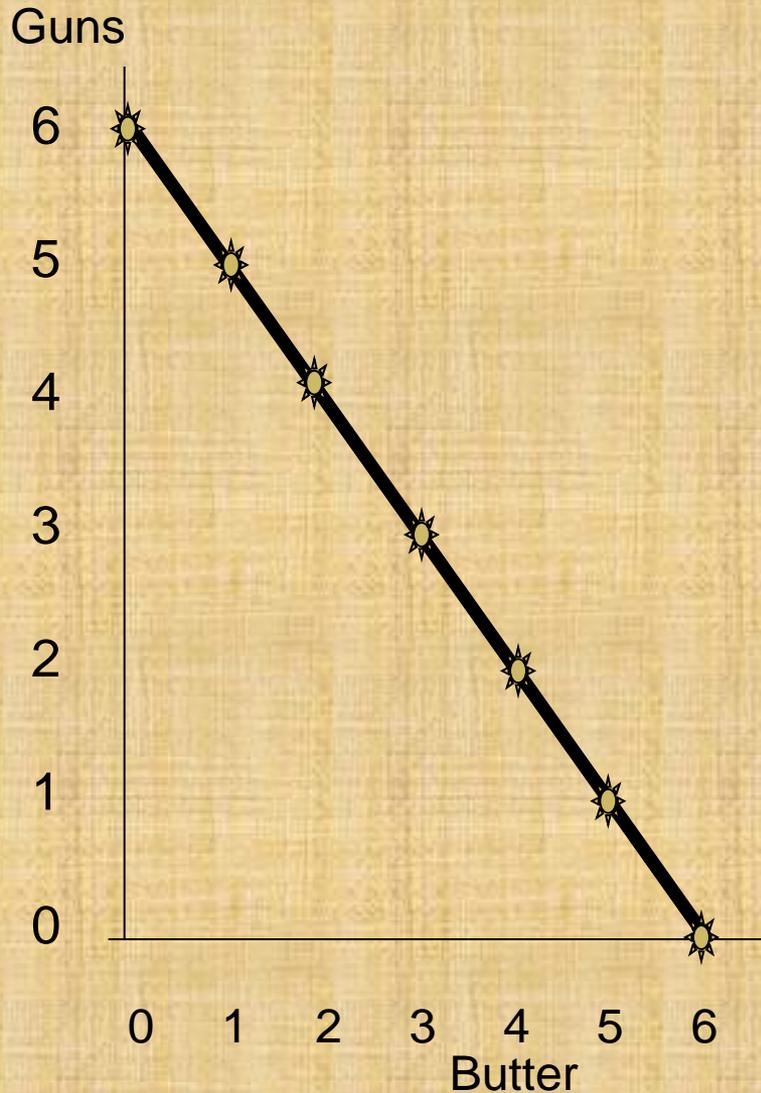
- **Efficiency:** producing the maximum possible output from available resources
- *The curve (the line)* represents what is attainable and efficient
- The points along the line represent maximum possible combinations of the two goods without new technology or growth

# Production Possibilities Curve or Frontier



- Optimal or best product-mix will be some point on the curve, but the exact point depends on society; this is a normative decision.
- Using resources to produce consumer goods and services may increase current feelings of satisfaction but do not permit growth.
- Using resources to produce capital goods or to invest in technological advances or education represent a choice for future growth and future goods.
- Example: the USSR and US during the Cold War

# Opportunity Costs and the PPF

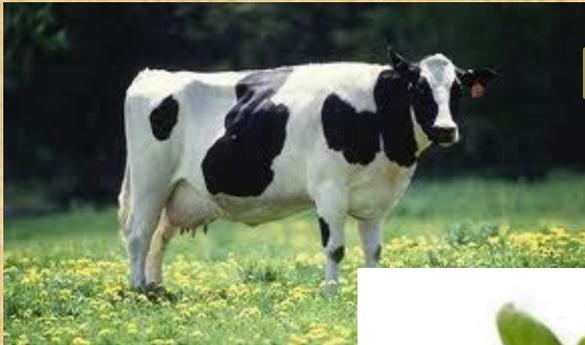


Movement along line shows opportunity costs of producing more of one type of good over the other.

So, to produce more guns, you will have to produce less butter.

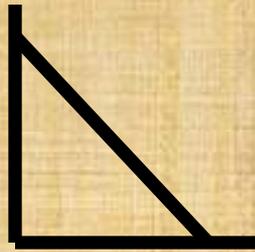
# Not all resources are interchangeable

- Example: You do not use the same resources to make butter as you do to make guns.

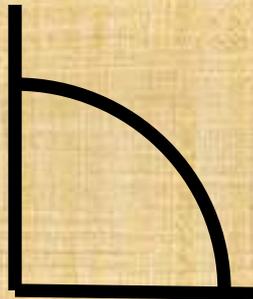


# Straight or Bowed?

- The PPF will be **straight** if the economy has resources that are perfectly adaptable to producing both goods.

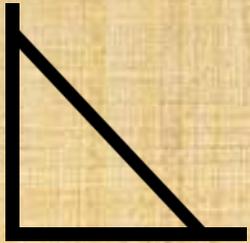


- The PPF will be **bowed out** when resources in the economy are not all perfectly adaptable to the production of both types of goods.

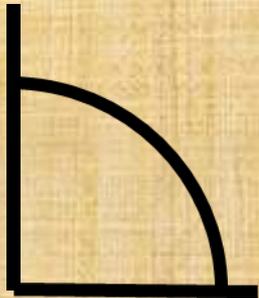


# A data schedule can illustrate

**\* *opportunity cost***



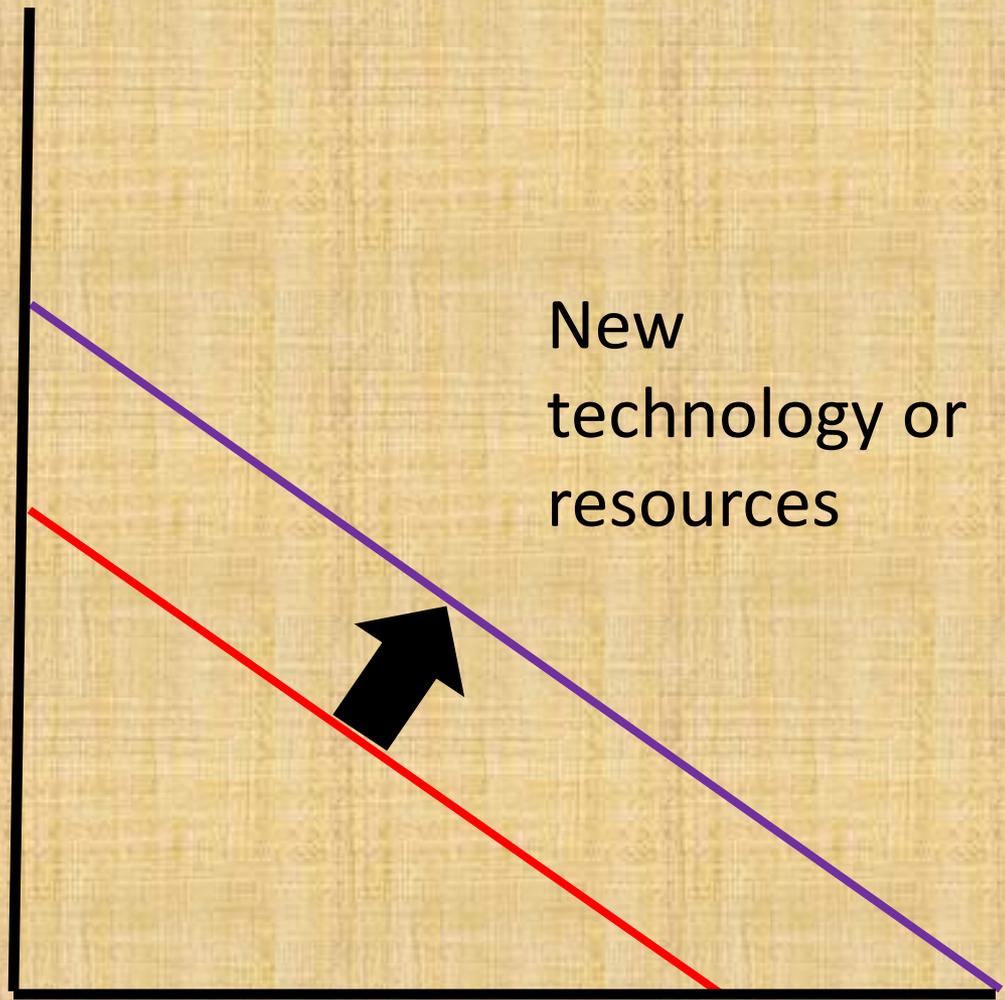
Footballs	12	10	8	6
Airplanes	0	1	2	3



Guns	21	12	5	0
Butter	0	4	8	12



Capital good



New  
technology or  
resources

Consumer good

# Reflective Writing in your Decision Making Notebook

- Where along the frontier would you choose between an after-school job and earning good grades?
- Why is your choice a normative decision? Explain your thinking.
- What other information would help you in your decision?

# Property of Oakland Schools

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Editor: Amy Bloom



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