Chapter 1

review for the exam

This is Macroeconomics and Microeconomics

The Basics: Part 1

1. in this chapter, we will learn that economics (eh-koe-nah-mics) is all about the choices we make with scarce resources

2. **economics** is the study of how people deal with scarcity

   A. scarcity is a situation in which individuals, businesses, and governments have unlimited wants but their resources are limited

3. **economic interaction** between people occurs every time they trade or exchange goods with each other, usually in a market

   A. a **market** is an arrangement by which buyers and sellers can interact and exchange goods and services with each other

Consumer Decisions and Opportunity Cost

1. scarcity of funds and resources causes everyone to make choices
2. the **opportunity cost** of a choice is <u>the value or cost of a positive alternative that was not chosen</u>
   A. if you buy sunglasses instead of a hat, then the opportunity cost (or, as we call it in class, the opportunity *lost*) is the hat
   B. in teenager terminology, the opportunity cost (or lost) is the girl or boy you decided not to go out with when you chose to date someone
   C. but, the loss must be a positive loss
      i. choosing not to date someone who cheats all the time is not an example of opportunity cost; that is just a smart decision

Macro/Micro Do-Now

1.

Nirali is a student at the University of Ainsley. She has 5 hours to study for two exams today. The tables below show Nirali's expected scores given the amount of time she studies for each exam.

Number of Hours Spent Studying Microeconomics	Expected Score on Microeconomics Exam (100-point scale)
5	100
4	96
3	90
2	82
1	60
0	0

Number of Hours Spent Studying History	Expected Score on History Exam (100-point scale)
0	0
1	40
2	60
3	72
4	77
5	80

(a) Nirali spends 3 hours studying microeconomics and 2 hours studying history. Calculate her gain from the second hour spent studying history.

(b) Calculate Nirali's opportunity cost of the second hour spent studying history.

(c) Assume Nirali increases the time she allocates to studying history. What happens to the opportunity cost of studying history? Explain.

(d) Assume that Nirali has a goal of maximizing the sum of her test scores (the score on microeconomics plus the score on history). How many hours should she study for each exam?

(e) Nirali learns that her tennis practice has been canceled, freeing up an additional hour for studying. Given your answer to part (d), will Nirali allocate the additional hour to studying microeconomics or to studying history to maximize the sum of her test scores? Explain using marginal analysis.

Macro/Micro Do-Now

1.

6 points $(1 + 1 + 1 + 1 + 2)$

(a) 1 point:

- One point is earned for correctly calculating the gain, 20 points.

(b) 1 point:

- One point is earned for correctly calculating the opportunity cost, 6 points for that hour (or 6/20).

(c) 1 point:

- One point is earned for stating that the opportunity cost increases and for using one the following explanations:

  - The expected score on microeconomics decreases at an increasing rate with each additional hour spent studying history.

  - The marginal cost is rising (expected score on microeconomics decreases) for each additional hour spent studying history.

(d) 1 point:

- One point is earned for stating that Nirali should spend 2 hours on studying microeconomics and 3 hours on studying history to maximize the sum of expected scores.

(e) 1 point:
- One point is earned for stating that Nirali will spend the additional hour studying microeconomics because studying microeconomics will increase her expected total score by 8 points compared to 5 points if spent studying history.

Gains from trade, Specialization, and Division of Labor

1. economic interaction between multiple people, companies, countries, etc. can lead to **gains from trade** which reallocates (exchanges) goods in a way that benefits everyone involved

2. economic interaction allows for **specialization**: people concentrating on what they are good at)

3. economic interaction also can allow for a **division of labor** (when some workers specialize in one task while others specialize in another task)

Production Possibilities

1. suppose that an economy can produce either computers or movies
2. with a scarcity of resources such as labor (workers) and capital (money for business), there is a choice between producing some goods versus others
3. the table below gives an example of the <u>alternative choices</u>, or the **production possibilities**, for computers and movies
4. each choice, A-F, leads to different production numbers
5. **marginal analysis** (a cost-benefit analysis) is <u>used to determine if the potential increase in profits outweigh the costs of making different decisions</u>

Production Possibilities

	Movies		Computers
A. if you make	0	you can make	25,000
B. if you make	100	you can make	24,000
C. if you make	200	you can make	22,000
D. if you make	300	you can make	18,000
E. if you make	400	you can make	13,000
F. if you make	500	you can make	0

Increasing Opportunity Costs

1. the opportunity cost of producing more movies is the value of the computers not produced, and vice versa
2. the opportunity cost, or lost, in terms of computers, of producing more movies increases as we require a loss of more and more computers
   A. this is called **increasing opportunity costs**
      i. moving from production possibility A to B requires an opportunity cost of 1,000 computers (25,000 to 24,000), but moving from production possibility A to C increases the opportunity cost to 3,000 computers (25,000 to 22,000)

graph a production possibilities curve showing increasing/not proportional opportunity costs and another graph showing not increasing/ proportional opportunity costs

Production Possibilities

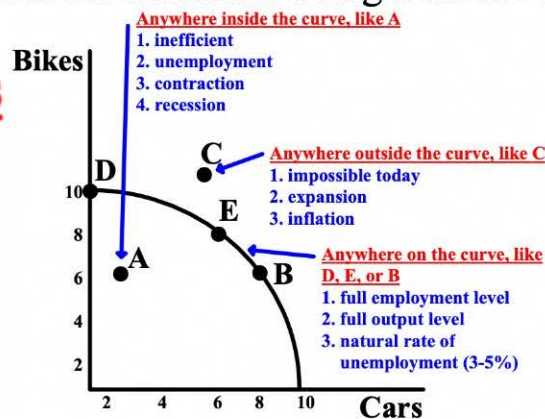|	Movies		Computers
A. if you make	0	you can make	25,000
B. if you make	100	you can make	24,000
C. if you make	200	you can make	22,000
D. if you make	300	you can make	18,000
E. if you make	400	you can make	13,000
F. if you make	500	you can make	0

The Production Possibilities Curve/Frontier (cont.)

1. a **production possibilities curve/frontier** (PPC/PPF) graphs both short-run (SR) and long-run (LR) tradeoffs, communicates choices, scarcity, and opportunity costs
2. a production possibilities curve/frontier with a curved curve indicates increasing/not proportional opportunity costs anywhere on the line for both items
3. when moving from point D to E, to make 6 cars (0 to 6) requires an opportunity cost (loss) of 2 bikes (10 to 8)
4. moving from E to B increases the number of cars by 2 (6 to 8), but the opportunity cost is now another 2 bikes (8 to 6)
5. the changes aren't constant/proportional and the resources being used are not easily adaptable between both products

Why the PPC/PPF Shifts

Changes in:

1. technology
2. trade
3. resource or input quantity or quality

Anywhere inside the curve, like A
1. inefficient
2. unemployment
3. contraction
4. recession

Anywhere outside the curve, like C
1. impossible today
2. expansion
3. inflation

Anywhere on the curve, like D, E, or B
1. full employment level
2. full output level
3. natural rate of unemployment (3-5%)

Bikes / Cars graph with points D (10), A (6), E (8), C, B
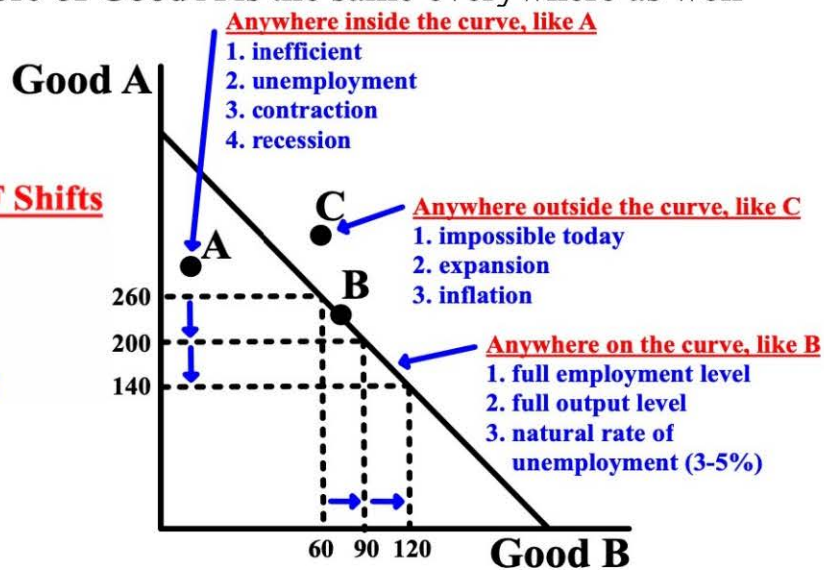
The Production Possibilities Curve/Frontier (cont.)

1. a production possibilities curve/frontier with a straight curve indicates constant and proportional opportunity costs anywhere on the curve
2. the resources are easily adaptable between both products and are perfect substitutes
3. if the PPC/PPF is a straight curve, the amount of Good A you have to give up to make one more of Good B is the same everywhere, and the amount of Good B you have to give up to make one more of Good A is the same everywhere as well

Anywhere inside the curve, like A
1. inefficient
2. unemployment
3. contraction
4. recession

Good A

Why the PPC/PPF Shifts
Changes in:
1. technology
2. trade
3. resource or input quantity or quality

A

260
200
140

C

B

Anywhere outside the curve, like C
1. impossible today
2. expansion
3. inflation

Anywhere on the curve, like B
1. full employment level
2. full output level
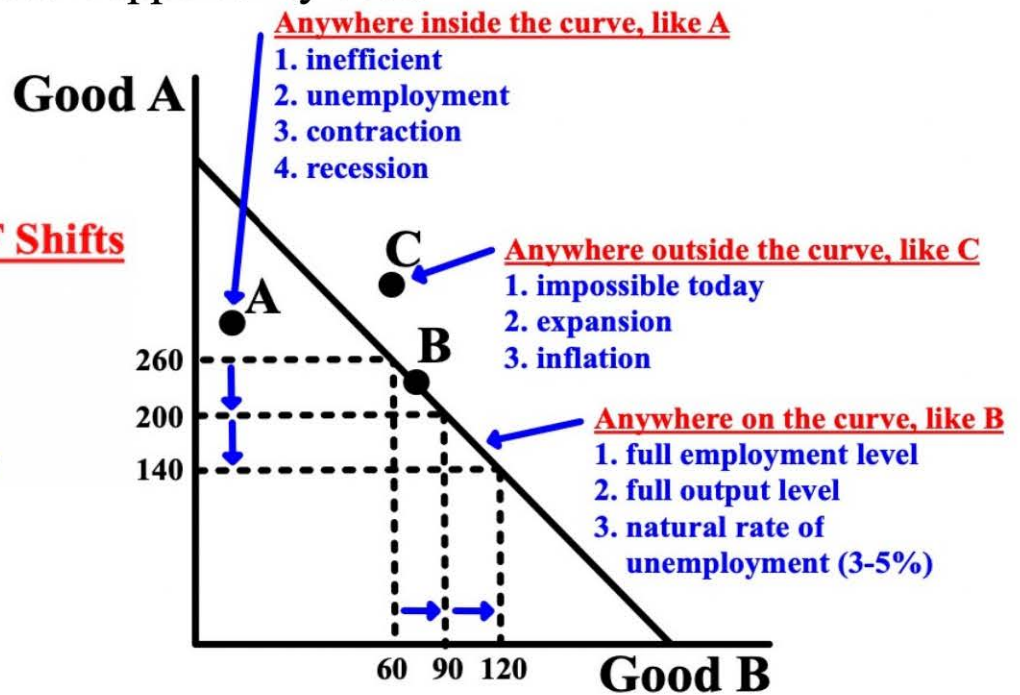3. natural rate of unemployment (3-5%)

60 90 120   **Good B**

The Production Possibilities Curve/Frontier (cont.)

1. for every increase of 30 of Good B, there is a decrease of Good A by 60
2. for every increase of Good A by 60, there is a decrease of Good B by 30
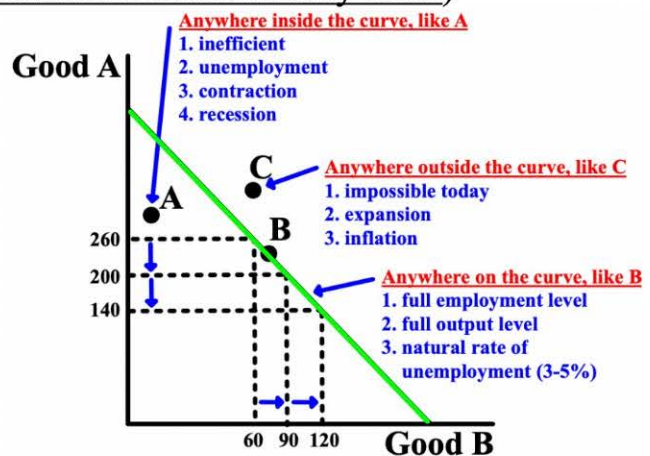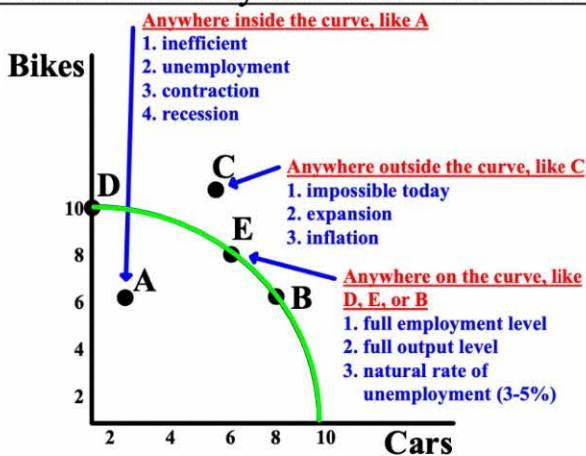3. both goods have constant opportunity costs

Anywhere inside the curve, like A
1. inefficient
2. unemployment
3. contraction
4. recession

Good A

Why the PPC/PPF Shifts
Changes in:
1. technology
2. trade
3. resource or input
   quantity or quality

C

Anywhere outside the curve, like C
1. impossible today
2. expansion
3. inflation

A

260

B

200

Anywhere on the curve, like B
1. full employment level
2. full output level
3. natural rate of
   unemployment (3-5%)

140

60 90 120 **Good B**

The Production Possibilities Curve/Frontier (cont.)

1. depending on where an economy is, this determines the location of the dot "."
2. on either green curve, curved or straight, indicates **efficient** or **production efficient** (the maximum amount that can be produced with the available resources at that time)
3. on either curve usually but not always indicates full use of resources, full employment, and peak output in an economy
   A. this means that production is **allocatively efficient** (the most efficient distribution of available resources for a firm/country)
4. on either curve can also mean that production is **socially optimal** (the optimal distribution of resources in society that is best for firms/countries and for society itself)

Bikes

Anywhere inside the curve, like A
1. inefficient
2. unemployment
3. contraction
4. recession

Anywhere outside the curve, like C
1. impossible today
2. expansion
3. inflation

Anywhere on the curve, like D, E, or B
1. full employment level
2. full output level
3. natural rate of unemployment (3-5%)

Cars

Good A

Anywhere inside the curve, like A
1. inefficient
2. unemployment
3. contraction
4. recession

Anywhere outside the curve, like C
1. impossible today
2. expansion
3. inflation

Anywhere on the curve, like B
1. full employment level
2. full output level
3. natural rate of unemployment (3-5%)

Good B

Macro/Micro Do-Now

1. Assume that the country of Fischerland produces only consumer goods and capital goods.
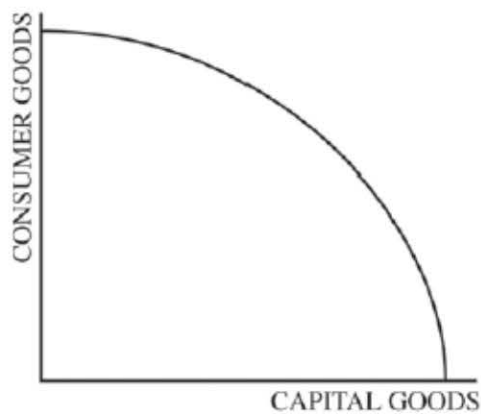
(a) The graph above shows the production possibilities curve for Fischerland. The production of which of the following exhibits increasing opportunity costs: consumer goods only, capital goods only, both goods, or neither good?

(b) Redraw the graph given above. Show a point that represents fully employed and efficiently used resources on the redrawn graph and label it A.

(c) Assume there is a recession in Fischerland. On your graph in part (b), label as C a point representing the recession.

Macro/Micro Do-Now

1. **3 points** $(1 + 1 + 1)$
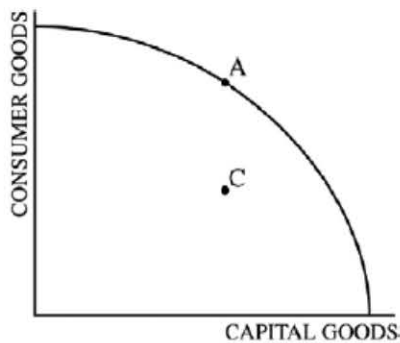
graph a production possibilities curve showing not increasing/ proportional opportunity costs; use pears as the vertical variable and wheat as the horizontal, then show an increase in wheat only

(a) 1 point:
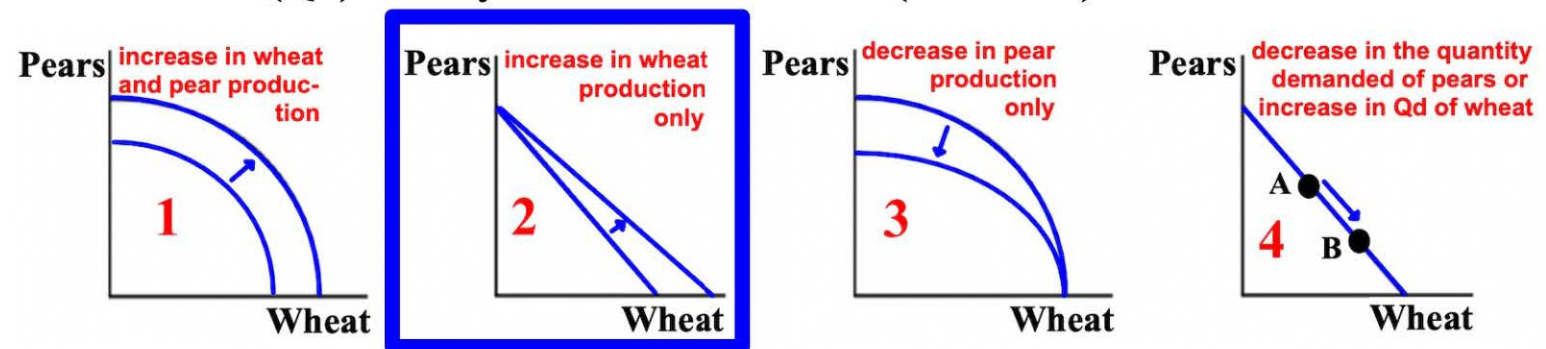 • One point is earned for answering both goods.

(b) 1 point:
  • One point is earned for showing point A on the production possibilities curve.

(c) 1 point:
  • One point is earned for showing point C inside the production possibilities curve.

Shifts in the Production Possibilities Curve/Frontier

1. regardless of which production possibilities curve/frontier (PPC/PPF) is graphed, both represent a tradeoff and decisions about scarce resources
2. when the PPC/PPF shifts out, the economy grows because more goods and services are being produced (#1 below), but it can also shift in, usually during natural disasters
3. the PPC/PPF can also shift in or out for only one of the variables while the other variable remains the same (#2 and #3 below)
4. the PPC/PPF can also show an increase or decrease in the quantity demanded (Qd) of only one of the variables (#4 below)

1 Pears / increase in wheat and pear production — Wheat

2 Pears / increase in wheat production only — Wheat

3 Pears / decrease in pear production only — Wheat

4 Pears / decrease in the quantity demanded of pears or increase in Qd of wheat — A, B — Wheat

Absolute and Comparative Advantage

1. **absolute advantage** is a situation in which a person, business, or country can produce more of a good than another can

   A. one entity can simply make more of a product than another

2. **comparative advantage** is a situation in which a person, business, or country can produce a good more efficiently and with less opportunity cost (loss) than another

   A. McDonalds can certainly produce hamburgers more efficiently and with less opportunity cost than Best Buy

3. comparative advantage is the most important calculation because it determines who should make what products allowing many to benefit from trade and specialization in the production of a product

Absolute and Comparative Advantage (cont.)

1. the USA has an absolute advantage in producing both food and clothing; they made more of both than Japan, but, comparative advantage matters more
2. to calculate opportunity costs= what we give up / what we get
3. the lowest opportunity cost (lost)/most efficient is the winner
3. in food, the USA has a comparative advantage: $3/6 = .5$ vs. $2/1= 2$ (Japan), and .5 is less than 2
4. in clothing, Japan wins: $1/2 = .5$ vs. $6/3= 2$ (USA), and .5 is less than 2

macro/
micro.
formula
#1

give
get

	Food	Clothing
United States	6 absolute advantage comparative advantage	3 absolute advantage
Japan	1	2 comparative advantage

Absolute and Comparative Advantage (cont.)

$$\frac{give}{get}$$

	Food	Clothing
United States	4	8
Japan	6	3

Which country has the absolute advantage and comparative advantage in each?

	Food	comparative advantage	Clothing	comparative advantage
United States	4		8	absolute advantage
Japan	6	absolute advantage	3	

$$\frac{give}{get}$$

	Food	Clothing
United States	$\frac{8}{4} = 2$	$\frac{4}{8} = .5$
	or	*or*
Japan	$\frac{3}{6} = .5$	$\frac{6}{3} = 2$

Absolute and Comparative Advantage (cont.)

1. in the production possibilities curve/frontier, India has the absolute advantage in nuts and China in grapes
2. in grapes, China has the comparative advantage:10/10= 1 vs. 12/8= 1 1/2 (India), and 1 is less than 1 1/2
3. in nuts, India has the comparative advantage, 8/12= .66 to 10/10= 1 (China)
4. China will grow grapes and India will grow nuts and both will benefit

India has an absolute advantage in nuts

China has an absolute advantage in grapes
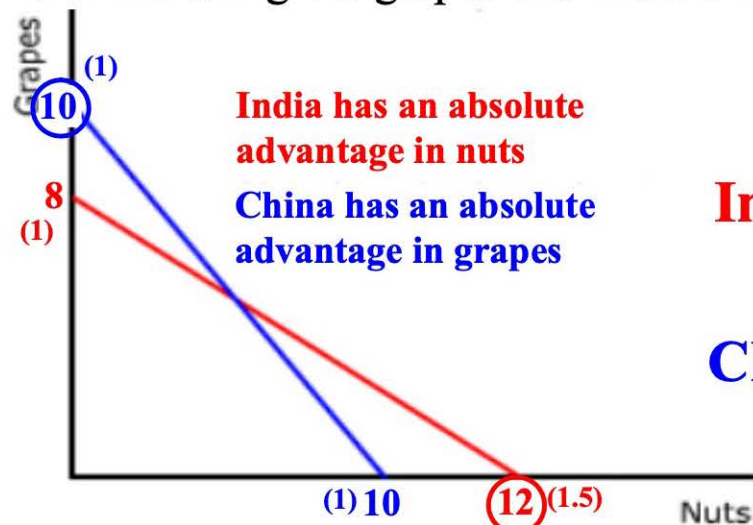
$$\frac{give}{get}$$

	Grapes	Nuts
India	$\frac{12}{8} = 1.5$	$\frac{8}{12} = .66$
	or	or
China	$\frac{10}{10} = 1$	$\frac{10}{10} = 1$

Macro/Micro Do-Now

1. The following table shows the number of donuts or cupcakes that John and Erica can each produce in one day.

	Donuts	Cupcakes
John	200	100
Erica	150	50

(a) Who has the absolute advantage in producing donuts? Explain.

(b) Who has the comparative advantage in producing donuts? Explain.

(c) Assume that Erica discovers a new cupcake production technique that will increase her daily production of cupcakes only. Using donuts on the horizontal axis, draw a correctly labeled constant / proportional production possibilities curve for Erica, before and after the technology change in cupcake production.

Macro/Micro Do-Now

1. **3 points** (1 + 1 + 1)

(a) 1 point:
- One point is earned for stating that John has the absolute advantage in producing donuts and for explaining that John can produce more donuts than Erica in one day (200>150).

(b) 1 point:
- One point is earned for stating that Erica has a comparative advantage in producing donuts and for explaining that Erica's opportunity cost of producing one donut (1/3 of a cupcake) is less than John's opportunity cost of producing one donut (1/2 of a cupcake).
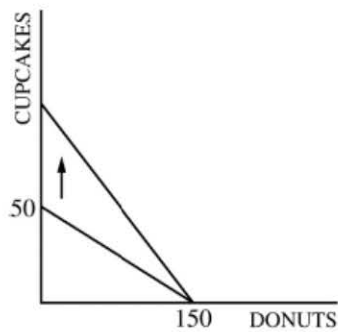
(c) 1 point:
- One point is earned for drawing a correctly labeled graph of Erica's production possibilities curve, before the technology change, and for rotating the production possibilities curve outward showing greater production of cupcakes after the technology change.

Macro/Micro Do-Now

2. Country X and Country Y are trading partners, and both produce furnaces and solar panels. The countries can produce the following amounts using equal amounts of resources.

Country X: 6 furnaces or 8 solar panels

Country Y: 6 furnaces or 12 solar panels

(a) Which country has an absolute advantage in producing solar panels?

(b) Calculate the opportunity cost of a furnace in Country Y.

(c) Which country has the comparative advantage in producing furnaces? Explain.

Macro/Micro Do-Now

2. **3 points** (1 + 1 + 1)

(a) 1 point:
  - One point is earned for stating that Country Y has an absolute advantage in producing solar panels.

(b) 1 point:
  - One point is earned for calculating the opportunity cost of a furnace for Country Y: 2 solar panels per furnace.

(c) 2 points:
  - One point is earned for stating that Country X has the comparative advantage in producing furnaces.
  - One point is earned for explaining that Country X has a lower opportunity cost of producing furnaces than Country Y.

Macro/Micro Do-Now

3. Countries face trade-offs between producing consumer goods and producing capital goods.

   (a) Country X takes one hour to produce a unit of consumer goods and two hours to produce a unit of capital goods. Country Y takes two hours to produce a unit of consumer goods and four hours to produce a unit of capital goods. Which country has a comparative advantage in the production of consumer goods? Explain.

   (d) Draw a correctly labeled graph of a production possibilities frontier indicating constant opportunity costs for country X. Put consumer goods on the horizontal axis and capital goods on the vertical axis. Show a point on your graph, labeled Z, that indicates the current level of unemployment is high.

Macro/Micro Do-Now

**3.** **5 points** $(1 + 1 + 1 + 2)$

(a) 1 point:

- One point is earned for stating that neither country has a comparative advantage in producing consumer goods and for explaining that the opportunity cost of producing 1 unit of consumer goods is the same for both countries (which is 1/2 a unit of capital goods).

~~**(b)** 1 point:~~

- ~~One point is earned for correctly calculating the unemployment rate as 10 percent (20,000/200,000 × 100 = 10%).~~

~~**(c)** 1 point:~~

- ~~One point is earned for correctly calculating the labor force participation rate as 66.67 percent (200,000/300,000 × 100 = 66.67%).~~
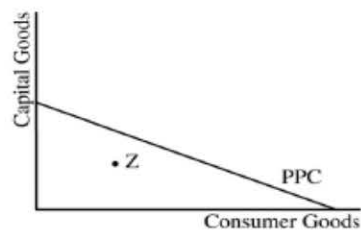
(d) 2 points:

- One point is earned for drawing a correctly labeled graph of the production possibilities curve (PPC).

- One point is earned for correctly showing point Z below the PPC.

Every Economy's Three Questions

1. there are three essential questions or problems that every economy must find a way to solve
   A. what is to be produced
   B. how are those goods to be produced
   C. for whom are the goods to be produced
2. a **free market economy** and a **command/centrally planned economy** offer different approaches to these questions
   A. in a free market economy, <u>democracies base their economies on capitalism and most decisions about what, how, and for whom to produce are made by individual consumers (those who buy), firms (companies), governments, and other organizations interacting in the markets</u>
   B. in a command or centrally planned economy, such as in a communist or socialist country, <u>decisions about what, how, and for whom to produce are made by those in control of the government</u>
3. many economies are **mixed economies**, or <u>a mixture of both</u>

Ceteris Paribus and Laissez Faire in an Economy

1. in order to use models for prediction, economists use the assumption **ceteris paribus**, which means "all other things equal"; (the prediction that a variable will not change assumes there is nothing that can change it)

2. a key belief of classical economists is the concept of **laissez faire** ("hands off" or little government control, where the role of the government is mainly to promote competition and reduce restrictions on the exchange of goods and services