Ronald McDonald can produce 20 pizzas or 200 burgers; Pizza Hut can produce 100 pizzas or 200 burgers

1. What is Ronald's opportunity cost for one pizza in terms of burgers given up?
2. What is Ronald's opportunity cost for one burger in terms of pizza given up?
3. What is Pizza Hut's opportunity cost for one pizza in terms of burgers given up?
4. What is Pizza Hut's opportunity cost for one burger in terms of pizza given up?
5. What would be acceptable terms of trade?

|  | Wheat produced per one acre | Sugar produced per one acre |
| :---: | :---: | :---: |
| USA | $\mathbf{3 0}$ | $\mathbf{3 0}$ |
| Brazil | $\mathbf{1 0}$ | $\mathbf{2 0}$ |

1. Who has an absolute advantage in wheat and sugar?
2. What is the cost of one unit of wheat for the U.S.?
3. What is the per unit opportunity cost for 1 unit of sugar for Brazil?
4. Who has a comparative advantage in wheat?
5. Who has a comparative advantage in sugar?
6. Who should import sugar?
7. What would be acceptable terms of trade for both countries?

## Determining Comparative Advantage (Output Method)

The following chart illustrates the number of CDs and pounds of beef that can be produced in one hour.


1. Which nation has an absolute advantage in producing CDs?
2. Which nation has an absolute advantage in producing beef?
3. Which has a comparative advantage in producing CDs?
4. Which has a comparative advantage in producing beef?
5. Should Japan specialize in CDs or beef?
6. Should Canada specialize in CDs or beef?

## Determining Comparative Advantage (Input Method)

The following chart illustrates the number of hours it takes to produce one loaf of bread and one bushel of corn.

|  | Bread |  |
| :--- | :---: | :---: |
|  | Corn |  |
| United States | 4 | 2 |
| France | 4 | 6 |

1. Which nation has an absolute advantage in producing bread?
2. Which nation has an absolute advantage in producing corn?
3. Which has a comparative advantage in producing bread?
4. Which has a comparative advantage in producing corn?

|  | Pineapples | Radios |
| :---: | :---: | :---: |
| Kenya | $\mathbf{3 0}$ | $\mathbf{1 0}$ |
| India | $\mathbf{4 0}$ | $\mathbf{4 0}$ |

1. Who has an absolute advantage in Radios?
2. What is the cost of one radio for India?
3. What is the per unit opportunity cost for 1 pineapple for Kenya?
4. Who has a comparative advantage in pineapples?
5. Who has a comparative advantage in radios?
6. Who should import pineapples?
7. Trading 1 radio for how many pineapples would benefit both countries?

| OUTPUT PER WORKER PER DAY |  |  |
| :---: | :---: | :---: |
| Country | Units of <br> Cloth | Units of <br> Food |
| Newland | 10 | 2 |
| Beeland | 10 | 1 |

3. The table above gives the production alternatives of two nations that are producing cloth and food, using equal amounts of resources.
(a) (i) Calculate the opportunity cost of producing a unit of cloth in Newland.
(ii) Calculate the opportunity cost of producing a unit of food in Beeland.
(b) (i) Which nation has the comparative advantage in cloth production?
(ii) Which nation has the comparative advantage in food production?
(c) Now assume that the productivity of Beeland's workers triples for each good.
(i) Which country has a comparative advantage in food production?
(ii) Explain how you determined your answer.

## 2008 AP ${ }^{\circledR}$ MACROECONOMICS FREE-RESPONSE QUESTIONS


3. The diagram above shows the production possibilities curves for two countries: Artland and Rayland. Using equal amounts of resources, Artland can produce 600 hats or 300 bicycles, whereas Rayland can produce 1,200 hats or 300 bicycles.
(a) Calculate the opportunity cost of a bicycle in Artland.
(b) If the two countries specialize and trade, which country will import bicycles? Explain.
(c) If the terms of trade are 5 hats for 1 bicycle, would trade be advantageous for each of the following?
(i) Artland
(ii) Rayland
(d) If productivity in Artland triples, which country has the comparative advantage in the production of hats?
50. If two nations specialize according to the law of comparative advantage and then trade with each other, which of the following would be true?
(A) A smaller number of goods would be available in each trading nation.
(B) Total world production of goods would decrease.
(C) Everyone within each nation would be better off.
(D) Each nation would increase its consumption possibilities.
(E) One nation would gain at the expense of the other nation.
26. The table below shows the production alternatives of Country A and Country B for producing computers and cars with equal amounts of resources that are fully and efficiently employed.

| Country |  | Computers |  |
| :---: | :---: | :---: | ---: |
| A Cars |  |  |  |
|  | 24 | 0 |  |
|  | 0 | 12 |  |
| B | 45 | 0 |  |
|  | 0 | 15 |  |

Which of the following is true according to the data in the table?
(A) Country A has an absolute and comparative advantage in the production of computers.
(B) Country B has an absolute and comparative advantage in the production of computers.
(C) Country B should import computers and export cars.
(D) Since Country B has an absolute advantage in the production of both goods, it will not trade with Country A.
(E) Neither country can benefit from trade.

## Questions 32-34 are based on the following graph:


32. Before specialization and trade, the domestic opportunity cost of producing 1 ton of grain in Alpha and in Beta is which of the following?

Alpha
(A) 1 ton of steel
(B) 1 ton of steel
(C) 2 tons of steel
(D) 1 ton of steel
(E) 0.33 ton of steel

Beta
1 ton of steel
2 tons of steel
1 ton of steel
0.5 ton of steel
1.5 tons of steel
33. The theory of comparative advantage implies that Alpha would find it advantageous to
(A) export grain and import steel
(B) export steel and import grain
(C) export both grain and steel and import nothing
(D) import both grain and steel and export nothing
(E) trade 1 ton of grain for 0.5 ton of steel
34. At what real exchange ratio, also referred to as the terms of trade, between grain (G) and steel (S) would both Alpha and Beta find it mutually advantageous to specialize and trade?
(A) $1 \mathrm{G}=3.0 \mathrm{~S}$
(B) $1 \mathrm{G}=1.5 \mathrm{~S}$
(C) $1 \mathrm{G}=1.0 \mathrm{~S}$
(D) $1 \mathrm{G}=0.5 \mathrm{~S}$
(E) There is no real exchange ratio that would enable both countries to benefit, since Alpha has an absolute advantage in both goods.

Part 1: Output Questions The diagram below shows the production possibilities curves for two countries: Luxland and Leanderland. Using equal amounts of resources, Luxland can produce 10 chips or 10 pretzels, whereas Leanderland can produce 4 chips or 8 pretzels.

1. Identify which country has the absolute advantage in:
a. Chips
b. Pretzels
2. Calculate the opportunity cost of producing one chip in Luxland.
3. Calculate the opportunity cost of producing one pretzel in Leanderland.
4. Identify which country has the comparative advantage in
 pretzels.
5. Identify which country has the comparative advantage in chips.

## 2. Korea can produce 3 cars or 9 motorcycles

## Germany can produce 4 cars or 8 motorcycles

|  | Cars | Motorcycles |
| :---: | :--- | :--- |
| Korea | 3 | 9 |
| Germany | 4 | 8 |

- What is the opportunity cost for producing one of each product?
- Who has a comparative advantage in cars?
- Who has a comparative advantage in motorcycles?
- What is a terms of trade that benefits both countries?

1 Car for $\qquad$ Motorcycles

## 3. Japan can produce 4 laptops or 12 phones <br> Brazil can produce 1 laptops or 5 phones

|  | Laptops | Phones |
| :--- | :--- | :--- |
| Japan | 4 | 12 |
| Brazil | 1 | 5 |

- What is the opportunity cost for producing one of each product?
- Who has a comparative advantage in laptops?
- Who has a comparative advantage in phones?
- What is a terms of trade that benefits both countries?

1 Laptop for $\qquad$ Phones

