

Worksheet – Opportunity Cost and Comparative Advantage

Answers

1. What is the difference between comparative advantage and absolute advantage?

Absolute advantage:

when a particular individual or country can produce more of a specific commodity than another individual or country using the same amount of resources.

Comparative advantage:
when a particular individual or country can produce a specific commodity at a lower opportunity cost (in terms of forgone production in an alternative commodity) than another individual or country.

The 5 steps of comparative advantage.

- 1. Know the definition of comparative advantage**
- 2. Set up a table:**
- 3. Go to the Xtremes (X and Y Games)**
- 4. Fill in the blanks**
- 5. Circles and Arrows**

**2. You're given the following info.
about a newlywed couple and the
time it takes each of them to do
different chores: vacuuming a
room or washing a load of dishes.**

	Mike	Debbie
Vacuum room	60 min	30 min
Wash dishes	45 min	45 min

	Mike	Debbie
Vacuum room	60 min	30 min
Wash dishes	45 min	45 min

Mike

1 room = $\frac{4}{3}$ loads

1 load = $\frac{3}{4}$ rooms

Debbie

1 room = $\frac{2}{3}$ loads

1 load = $\frac{3}{2}$ rooms

A. What is Mike's opportunity cost of vacuuming in terms of washing dishes?

Washing $1\frac{1}{3}$ loads of dishes.

B. What is Mike's opportunity cost of washing dishes in terms of vacuuming?

Vacuuming $\frac{3}{4}$ of a room.

C. What is Debbie's opportunity cost of vacuuming in terms of washing dishes?

Washing $\frac{2}{3}$ of dishes.

D. What is Debbie's opportunity cost of washing dishes in terms of vacuuming?

Vacuuuming $1\frac{1}{2}$ room.

E. Who has the *absolute* advantage in vacuuming? Debbie

F. Who has the *absolute* advantage in washing dishes? neither

G. Who has the *comparative* advantage in vacuuming? Debbie

H. Who has the *comparative* advantage in washing dishes? Mike

I. Who should do which chore and why?

Base your answer only on the information above and on comparative-advantage considerations.

Mike - wash dishes

Debbie - vacuum.

They will finish their chores sooner by specializing according to their comparative advantage. The person with the lower opportunity cost should perform the chore.

3. Andy and Hannah and the time it takes each of them to clean an office and clean a jail cell:

	Andy	Hannah
Cleaning offices	60 min	20 min
Cleaning jail cells	30 min	15 min

	Andy	Hannah
Cleaning offices	60 min	30 min
Cleaning jail cells	20 min	15 min

Andy
 1 office = 2 jail cells
 1 jail cell = 1/2 offices

Hannah
 1 office = 4/3 jail cells
 1 jail cell = 3/4 offices

A. What is Andy's opportunity cost of cleaning offices in terms of cleaning jail cells?

Cleaning 2 jail cells.

B. What is Hannah's opportunity cost of cleaning offices in terms of cleaning jail cells?

Cleaning $\frac{4}{3}$ of a jail cell.

C. What is Andy's opportunity cost of cleaning jail cells in terms of cleaning offices?

Cleaning $\frac{1}{2}$ of an office.

D. What is Hannah's opportunity cost of cleaning jail cells in terms of cleaning offices?

Cleaning $\frac{3}{4}$ of an office.

E. Who has the *absolute* advantage in cleaning offices? Hannah

F. Who has the *absolute* advantage in cleaning jail cells? Hannah

G. Who has the *comparative* advantage in cleaning offices? Hannah

H. Who has the *comparative* advantage in cleaning jail cells? Andy

I. Who should do which chore and why?

Base your answer only on the information above and on comparative-advantage considerations.

Hannah – clean offices

Andy – clean jail cells

They will finish sooner.

The person with the lower opportunity cost should perform the chore.

4. Consider the following two countries. Assume they produce only these two goods. Note that productivity is now measured in how many goods can be produced per hour, the opposite of how we measured in Questions 2 and 3

	U.S.	Japan
Cars	12	10
Computers	4	6

	U.S.	Japan
Cars	12	10
Computers	4	6

US
1 car = 1/3 computers
1 computer = 3 cars

Japan
1 car = 3/5 computers
1 computer = 5/3 cars

A. What is U.S' opportunity cost of making cars?

For every car, it must give up $\frac{1}{3}$ of a computer.

B. What is Japan's opportunity cost of making cars?

For every car, it must give up $\frac{3}{5}$ of a computer.

C. What is U.S' opportunity cost of making computers?

For every computer, it must give up 3 cars.

D. What is Japan's opportunity cost of making computers?

For every computer, it must give up $\frac{5}{3}$ of a car.

E. Who has the *absolute* advantage in cars? U.S.

F. Who has the *absolute* advantage in computers? Japan

G. Who has the *comparative* advantage in cars? U.S.

H. Who has the *comparative* advantage in computers? Japan

I. Which country should produce which good and why? Base your answer only on the information above and on comparative-advantage considerations.

U.S. – cars

Japan – computers

Because cars and computers would then be produced by the lower-cost country. The total output of cars and computers will be higher.

5. Use the law of comparative advantage to explain why self-sufficiency leads to a lower standard of living.

If people and nations do not trade on the basis of comparative advantage, there will be fewer goods and services for people to enjoy. People will be poorer. Less trade of self-sufficiency means a lower standard of living.