

Economics 101
Spring 2001
Section 4 - Hallam
Problem Set #3

Due date: February 12, 2001

1. Robinson Crusoe and Man Friday live on an island. The following table represents their output in a day of work.

	Fish	Cassava
Robinson Crusoe	10	20
Man Friday	12	36

- a. Who has an absolute advantage in fish? (Show work)
- b. Who has an absolute advantage in cassava? (Show work)
- c. Who has a comparative advantage in fish? (Show work)
- d. Who has a comparative advantage in cassava? (Show work)

2. Robinson Crusoe and Man Friday live on an island. The following table represents their output in a day of work.

	Fish	Cassava
Robinson Crusoe	20	30
Man Friday	10	15

- a. Who has an absolute advantage in fish? (Show work)
- b. Who has an absolute advantage in cassava? (Show work)
- c. Who has a comparative advantage in fish? (Show work)
- d. Who has a comparative advantage in cassava? (Show work)

3. Robinson Crusoe and Man Friday live on an island. The following table represents their output in a day of work.

	Fish	Cassava
Robinson Crusoe	20	30
Man Friday	30	15

- a. Who has an absolute advantage in fish? (Show work)
- b. Who has an absolute advantage in cassava? (Show work)
- c. Who has a comparative advantage in fish? (Show work)
- d. Who has a comparative advantage in cassava? (Show work)

4. Robinson Crusoe and Man Friday live on an island. The following table represents their output in a day of work.

	Fish	Cassava
Robinson Crusoe	20	30
Man Friday	15	25

- a. Who has an absolute advantage in fish? (Show work)
- b. Who has an absolute advantage in cassava? (Show work)
- c. Who has a comparative advantage in fish? (Show work)
- d. Who has a comparative advantage in cassava? (Show work)

5. India and Indonesia can both produce computers and VCRs. The following data represents the cost of producing each item valued in the local currency.

Cost per unit data

	Per VCR	Per Computer
Indonesia	2,000,000 rupiah	12,000,000 rupiah
India	13,000 rupees	52,000 rupees

- What is the opportunity cost of producing one more computer in India? (Show work)
 - What is the opportunity cost of producing one more computer in Indonesia? (Show work)
 - Which country has an absolute advantage in producing computers? (Show work)
 - Which country has a comparative advantage in producing computers? (Show work)
 - Which country has a comparative advantage in producing VCRs? (Show work)
6. India and England can both produce shirts and shoes. The following data represents the cost of producing each item valued in the local currency.

Cost per unit data

	Per Shirt	Per Shoe
England	30 pounds	75 pounds
India	700 rupees	2100 rupees

- What is the opportunity cost of producing one more shirt in India? (Show work)
 - What is the opportunity cost of producing one more shoe in India? (Show work)
 - What is the opportunity cost of producing one more shirt in England? (Show work)
 - Which country has an absolute advantage in producing shirts? (Show work)
 - Which country has a comparative advantage in producing shirts? (Show work)
 - Which country has a comparative advantage in producing shoes? (Show work)
7. Use the following table to answer this question where the data in the table gives the cost per unit for each item.

	Per bushel wheat	Per bottle wine
Israel	12 shekels	36 shekels
Italy	5,000 lira	12,500 lira

- What is the opportunity cost of producing one more bottle of wine in Israel? (Show work)
- What is the opportunity cost of producing one more bottle of wine in Italy? (Show work)
- What is the opportunity cost of producing a bushel of wheat in Israel? (Show work)
- What is the opportunity cost of producing a bushel of wheat in Italy? (Show work)
- Which country has an absolute advantage in producing wine? (Show work)
- Which country has a comparative advantage in producing wine? (Show work)
- Which country has a comparative advantage in producing wheat? (Show work)

8. Consider the following data on wine and shoe production in France and Italy where the data is production per day. Assume that the production possibility frontier is linear. With no wine production, France can produce 12,000 pairs of shoes. With 6,000 bottles of wine France has no shoe production, etc. Be sure to show your work on each problem.

	Shoes	Wine
France	12,000	0
France	0	6,000
Italy	35,000	0
Italy	0	7,000

- If France produced 11,000 pairs of shoes, how many total bottles of wine could it produce?
 - If France produced 10,000 pairs of shoes, how many total bottles of wine could it produce?
 - If France produced 1,000 pairs of shoes, how many total bottles of wine could it produce?
 - If Italy produced 34,000 pairs of shoes, how many total bottles of wine could it produce?
 - If Italy produced 30,000 pairs of shoes, how many total bottles of wine could it produce?
 - If Italy produced 20,000 pairs of shoes, how many total bottles of wine could it produce?
 - Suppose that France is producing 8,000 pairs of shoes and 2,000 bottles of wine while Italy is producing 10,000 pairs of shoes and 5,000 bottles of wine. What is total wine production?
 - Now suppose France decreases shoe production to 7,000 pairs of shoes while Italy increases shoe production to 11,000 pairs. What is total wine production?
9. Consider the following hypothetical data on corn and cattle production in North and South America. The corn is measured in bushels and cattle in head. Assume that capital is freely mobile so only labor costs matter. Also assume that real wages will tend to equalize so that only labor quantities matter.

	Corn	Cattle
North America	.04 hours	2 hours
South America	.10 hours	4 hours

- Make a new table showing the output of each area per day, assuming an 8 hour work day.
 - Who has an absolute advantage in corn?
 - Who has an absolute advantage in cattle?
 - Who has a comparative advantage in corn?
 - Who has a comparative advantage in cattle?
10. Work question 1 from Skills and Tools in Chapter 16.
11. Work question 2 from Skills and Tools in Chapter 16.
12. Work question 3 from Skills and Tools in Chapter 16.
13. Work question 4 from Skills and Tools in Chapter 16.
14. Consider a demand curve written as $Q^D = 100 - 0.25 P$.
- What is the inverse demand curve, that is, what is price as a function of quantity?
 - In a computer spreadsheet, create a table with the numbers 0 to 100 by 5's for the quantity and the numbers 0 to 400 for the corresponding price.
 - Find the slope of the demand curve by considering a price change from 100 to 120, i.e. find $\Delta Q/\Delta P$.
 - Confirm that this is the slope by examining the inverse demand curve.
 - On the computer spreadsheet, create an x-y scatter plot of the inverse demand curve with quantity on the horizontal axis.