

Econ101:Problem Set 3

- 1) Assume that labor is the only input in the production of calculators and backpacks in Canada and Japan. The following table gives the **output per hour** of labor in each country.

Productivity per one hour of labor

	Calculators	Backpacks
Canada	4	6
Japan	3	2

Which country has an absolute advantage in the production of calculators? In backpacks?

- 2) In Canada, what is the opportunity cost, in terms of calculators, of producing six more backpacks? What is the opportunity cost, in terms of backpacks, of producing 12 more calculators?

- a) Find these opportunity costs for Japan.
- b) Should each good be produced where its opportunity cost in terms of the other good, is least?
- c) Using this information, state which country has the comparative advantage in calculators and which has the comparative advantage in backpacks. Should each country specialize in the good in which it has a comparative advantage?
- d) Assume each country has 12 million hours of labor input and that the calculator and backpack industries exhibit constant costs. Also, assume the terms of trade are one calculator for one backpack. For each country, construct two production possibility frontiers (one before trade and one after specialization and trade) on the same graph (see textbook for example).
- e) Are the countries made better off by specializing and trading? Explain.

- 3) Use the table below to determine if the statements that follow are true or false. Be prepared to support your answers.

	Opportunity Cost of Each Product	
	Peanut Butter	Jelly
Rob	1 jelly	1 PB
Ellen	4 jelly	1/4PB

- a. Rob and Ellen will agree to trade with each other if the terms of trade are 20 peanut butter: 100 jelly.
- b. Rob and Ellen will agree to trade with each other if the terms of trade are 20 peanut butter: 50 jelly.
- c. What is the range for the term of trade (T) in peanut butter: jelly?
 - i. $1 < T < 4$
 - ii. $1/4 < T < 8$
 - iii. $1/4 < T < 1$
 - iv. $0 < T < 4$