

**Questions to be handed in**

*(Please....use plenty of paper, spread out your answers and write legibly.)*

|                              | Albania    | Belarus    |
|------------------------------|------------|------------|
| Total Labor Force            | 500        | 1000       |
| Production Technology for... |            |            |
| Grapes                       | $Q = 2 L$  | $Q = 4 L$  |
| Olives                       | $Q = 10 L$ | $Q = 12 L$ |

1. Create a table showing the unit labor requirement and the marginal product of labor for each country and good.
2. In order to derive the production possibilities frontier, describe using both words and an equation, how you determine
  - a. where the PPF hits the "grape output" axis in Albania
  - b. where the PPF hits the "olive output" axis in Albania
  - c. what determines the slope of the PPF.
3. Draw the PPF for both Albania and Belarus. Be sure to label the numeric values of each axis.
4. What is the opportunity cost of producing one more unit of grapes in Albania? in Belarus?
5. Autarky prices: for each country
  - a. what is the autarky price of grapes / price of olives?
  - b. what is the autarky price of olives / price of grapes.
  - c. In Albania one good is more expensive in autarky. Explain why this is.
6. Suppose Albania and Belarus are free to trade.
  - a. Describe the pattern of trade
  - b. What happens to the composition of output in each country?

- c. What is the possible range in which the world price of olives/grapes could fall?
7. Pick the number in the middle of this possible price range. At this relative price...
- a. Show what happens to the PPF and the CPF in each country at the autarky price and at the new world price.
- b. What is the Belarussian wage relative to the Albanian wage?
- c. What happens to that relative wage if the price of olives/grapes were to rise?
8. Explain, in words, which country gains from trade in this exchange, and why.
9. For each of the following scenarios, what happens to: the opportunity costs of producing one more unit of olives; the autarky price of olives / price of grapes, and the pattern of trade if...
- a. Belarus were to become twice as productive in both sectors.
- b. Belarus were to become twice as productive only in olive production.
- c. Albania were to double its population.
10. This question applies the Ricardian model in the multi-good case. Suppose that wages in the US are \$20/ hour while wages in Mexico are \$4/hour.

| Good     | US unit labor requirement | Mexico unit labor requirement |
|----------|---------------------------|-------------------------------|
| Apples   | 1                         | 2                             |
| Bananas  | 1                         | 4                             |
| Cherries | 1                         | 5                             |
| Dates    | 1                         | 6                             |
| Eggplant | 1                         | 10                            |

- a. Which goods will the US export? Which will Mexico export?
- b. Suppose there is a tariff (tax) of \$6 on any good crossing the border in any direction. How does that change your answer?