Problem Sets 3
(Due in class Sep. 29 W)

1. In one hour, Biwei can either produce four apples or six bananas. In total, Biwei works eight hours a day. Derive the equation for Biwei's daily production possibilities frontier and draw the graph. If Biwei splits his total time equally into producing both goods, how many units he would produce?

2. International Trade Theory and Applications
   1) Production possibility frontier: Suppose CH and US both produce apples and oranges, and labor is the only factor of production. In one day, CH can either produce 40 apples or 60 oranges; US can either produce 60 apples or 40 oranges. Assume away transportation and transaction costs.

	Opportunity cost of producing one apple	Opportunity cost of producing one orange
CH		
US		

   a. Compute their opportunity costs of production and fill in the table. Draw the production possibility frontiers for CH and for US, respectively.
   b. CH prefers average consumption on both goods, so does US. Show these consumption bundles on their production possibilities frontiers.
   2) Specialization and "fair trade"
   a. Based on the information in question 1, who has absolute advantage in producing oranges? Who has comparative advantage in producing apples?
   b. After negotiation, CH fully engages in producing oranges and US in apples. Given an exchange rate of one apple for one orange, what is the trade equilibrium if CH would like to trade out 20 oranges? Fill in the table below and compute the net gain from trade.

	Autarky Equilibrium		Trade Equilibrium		Gains from Trade	
	Apples	Oranges	Apples	Oranges	Apples	Oranges
CH	20	30				
US	30	20				

   3) "Unfair trade": After complete specialization, CH and US agree to trade 40 apples for 30 oranges, would both of them become strictly better off compared with autarky? Explain. Who is the "winner" (gains more than the other) from trade?
   4) Trade policy intervention: Suppose that US considers its trade with CH as unfair and decides to impose 10% tariff on its imports. How would this affect exchange rate (terms of trade) and trade equilibrium in the model? Suppose further CH will not retaliate.

For questions 3 and 4, choose only one to submit.

3. In Genesis 25:19-34, the twin brothers Esau and Jacob, sons of Isaac and Rebekah, were engaged in an outright transaction of the firstborn birthright. Read the story online and apply the concepts and principles in value theory to answer the following questions. Cite the sources if coming from the Bible or the Internet.

1) What had been exchanged for Esau's birthright?
2) Why could the exchange occur between Esau and Jacob?
3) Is the exchange fair between the twin brothers? Why or why not?
4) What were the specific rights associated with firstborn birthright in their times?
5) How was the validity of transaction of firstborn birthright guaranteed? Was it effective?

4. Read the Scripture Genesis 29 on the contractual agreement between Jacob and Laban. Please apply economic way of thinking to the questions below.

1) For Jacob, what is the opportunity cost of getting Rachel?
2) What is the use value of Rachel, to Jacob?
3) To Jacob, what is use value of Leah?
4) What is the exchange value of Rachel?
5) Is the exchange for Rachel fair to Jacob?