Name **PROBLEM SET TWO**

Economics 452 International Trade Theory and Policy

1. To produce a ton of steel requires 10 hours of labor and 5 acres of land. To produce a ton of wheat requires 2 hours of labor and 4 acres of land. The economy has a supply of 240 hours of labor and 240 acres of land.

   a. Find the labor and land constraints on the economy's production (all three forms for each factor).

   Graph the factor constraints (with wheat on the vertical axis).

   Compare the slopes of the constraints – which is steeper and why?

   b. Find the production bundle of steel and wheat that fully employs both labor and land.

2. Suppose that the land supply increases to 360.

   a. Find the new land constraint.

      Graph the new land constraint (on the same graph as the originals above).

   b. Find the new production bundle of steel and wheat that fully employs both labor and land.

      Is the new relative supply of steel to wheat higher or lower than before?

   c. Suppose the home country is has the factor endowments in problem 1 and the foreign country those in problem 2. Which country is relatively abundant in labor to land?

      Which good makes relatively intensive use of labor to land?

      Determine the pattern of comparative advantage and the pattern of trade.

3. Maintaining the assumptions of problem 1, suppose that the price of steel is 100 and the price of wheat is 32.

   a. Find the lines along which the price and production cost are equal for steel and wheat (all three forms for each good).

   Graph the pricing lines (with rent on the vertical axis).

   Compare the slopes of the two pricing constraints – which is steeper and why?

   b. Determine the equilibrium wage paid to labor and rent paid to land.

4. Suppose that the price of steel rises to 130.

   a. Find the new steel pricing constraint.

      Graph the new steel pricing constraint (on the same graph as the original).

   b. Determine the new equilibrium wage and rent.

      Is the new wage relative to rent higher or lower than before?

      Compare the proportional change in the wage and rent to the proportional change in the price of steel.

      Who benefits and who loses from this price change?

      How could the losers be identified, even under autarky (before trade occurs)?