Economics 452 International Trade Theory and Policy

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

   a. Find the labor constraint on the economy's production (all three forms).

   b. Find the home capital constraint (all three forms).

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

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

   d. Find the home production bundle of steel and wheat that fully employs both factors.
2. Suppose that the ROW has the same amount of labor but 360 capital.

   a. Find the new (ROW) capital constraint.

   b. Graph the new (ROW) capital constraint (on the same graph as the originals above).

   c. Find the new (ROW) production bundle of steel and wheat that fully employs both factors.

   Compare the relative production of steel to wheat across countries. Is the new (ROW) relative supply of steel to wheat higher or lower than before (for home)?

   d. Suppose home has the factor endowments in problem 1 and the ROW those in problem 2. Compare the relative abundance of factors across countries. Which country is relatively abundant in labor to capital?

   Compare the relative intensity of factor use across goods. Which good makes relatively intensive use of labor to capital?

   Determine the pattern of comparative advantage and the pattern of trade. Which does each country have comparative advantage in and what does each country import and export?
3. Suppose that the price of wheat is 32 and the (home autarky) price of steel is 100.

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

b. Find the lines along which the (home autarky) price and production cost are equal for steel (all three forms).

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

```
0
```

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

d. Determine the (home autarky) equilibrium wage paid to labor and rent paid to capital.
4. Suppose that the price of steel rises to 130 (for home country when trades).

   a. Find the new steel pricing constraint.

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

   c. Determine the new equilibrium wage and rent.

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

   d. 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)?