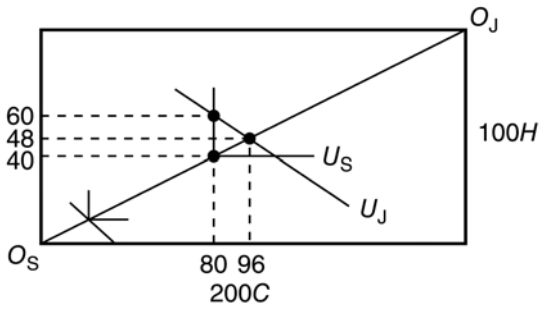
Amherst College
Economics 58
Fall 2010

Solutions to Problem Set 8

1.



a. Contract curve is straight line with slope of ½. The only price ratio in equilibrium is 3 to 4 (p_c to p_h).

b. 40*h*, 80*c* is on C.C. Jones will have 60*h* and 120*c*.

c. 60*h*, 80*c* is not on *C.C.* Equilibrium will be between 40*h*, 80*c* (for Smith) and 48*h*, 96*c* (for Smith), as Jones will not accept any trades that make him worse off. $U_J = 4(40) + 3(120) = 520$. This intersects the contract curve at $520 = 4(h) + 3(2h)$, $h = 52$, $c = 104$.

d. Smith grabs everything; trading ends up at O_J on *C.C.*

2. a. World price ratio determines location on PPF. This position in Edgeworth Box determines tangent slope of the isoquants which determines relative price of capital and labor. If production functions are the same everywhere, this construction will be the same everywhere. So relative factor prices will be equal.

b. An increase in the price of the capital intensive good will increase its production. This will reduce the capital labor ratio in both goods because of the shape of the contract curve in the Edgeworth Box. A lower *k/l* in both industries implies that the ratio of the return to capital to that of labor will rise.

c. Initially, the given world price will determine the capital labor ratio in both industries. That will not be changed by an increase in capital. But with more capital and a constant capital labor ratio, output of the capital intensive good must rise and that of the labor intensive good must fall.