

Short answer of PS#2

- a) $x_c/x_f = \frac{1}{p_c/p_f}$
- b) The area covered by both $9Q_c + Q_f \leq 56$ and $Q_c + 9Q_f \leq 24$
- c) If $p_c/p_f > 9$, then $Q_f = 0$ and $Q_c = 56/9$. If $1/9 < p_c/p_f < 9$, then $Q_c = 6$ and $Q_f = 2$. If $p_c/p_f < 1/9$, then $Q_c = 0$ and $Q_f = 56$.
- d) The equilibrium $p_c/p_f = 1/3$
- e) $r = 1/40$, $w = 13/120$
- f) $r/p_c = 3/40$, $r/p_f = 1/40$, $w/p_c = 13/40$, $w/p_f = 13/120$
- g) The area covered by $9Q_c^* + Q_f^* \leq 24$ and $Q_c^* + 9Q_f^* \leq 56$
- h) $p_c^*/p_f^* > 9$, then $Q_f^* = 0$ and $Q_c^* = 56/9$. If $1/9 < p_c^*/p_f^* < 9$, then $Q_c^* = 2$ and $Q_f^* = 6$. If $p_c^*/p_f^* < 1/9$, then $Q_c^* = 0$ and $Q_f^* = 56$.
- $r^* = 3/40$ and $w^* = 13/40$
- i) The world relative supply curve is $(Q_c + Q_c^*) / (Q_f + Q_f^*) = 1$ if $1/9 < p_c^w/p_f^w < 9$. If $p_c^w/p_f^w > 9$, it is infinitely. If $p_c^w/p_f^w = 9$, it is greater or equal to 1. If $p_c^w/p_f^w = 1/9$, it is between 0 and 1. The world relative demand curve is the same as before. Thus, the intersection is $p_c/p_f = 1$.
- j) Home export clothing and foreign export food.
- k) Since the world relative price is between $1/9$ and 9 , the production is the same as before from the PPF graph.
- l) $p_c(Q_c - x_c) = p_f(x_f - Q_f)$. This implies that $p_c x_c + p_f x_f = p_c Q_c + p_f Q_f$
- m) $x_c = 4$ and $x_f = 4$
- n) 2 units of food are imported by home and 2 units of cloth are exported by home.
- o) Since the $1 < p_c^w/p_f^w < 9$, the foreign's production is the same as before. Thus, $Q_f = 6$ and $Q_c = 2$.
- p) 2 units of food are imported and 2 units of clothing are exported by foreign.
- r) $p_f = 1$ and $p_c = 1$. After trade, $w/p_c = 1/10$, $w/p_f = 1/10$, $r/p_c = 1/10$, $r/p_f = 1/10$. Thus, capital owners become better off and workers become worse off.
- s) In foreign, $w/p_c = 1/10$, $w/p_f = 1/10$, $r/p_c = 1/10$, $r/p_f = 1/10$. workers become better off and capital owner becomes worse off.
- t) $\Delta K = 16$ and $\Delta L = 16$.
- u) Labor increases and capital decreases. From the Rybczynski theorem, holding the price constant, the output of the labor intensive good will increase and the output of capital intensive good will decrease. This implies that the supply curve of Q_c/Q_f moves left holding p_c/p_f constant. The movement of the supply curve to the left will increase the relative price of p_c/p_f . From the Stolper-Samuelson theorem, the capitalist will become better off and workers become worse off.