Avec revenu $W = p_x e_x + p_y e_y$:

$$Y = \frac{p_x e_x + p_y e_y}{2\sqrt{p_x p_y} + p_y} \qquad X = \frac{2(p_x e_x + p_y e_y)}{(2\sqrt{p_x} + \sqrt{p_y})\sqrt{p_x}}$$

6) Equilibre sur le marché Y :

$$Y_1 + Y_2 = \frac{p \cdot e_{x1} + e_{y1} + p\, e_{x2} + e_{y2}}{2\sqrt{p} + 1} = e_{y1} + e_{y2}$$

(On a fixé $p_y = 1$, $p_x = p$).

$$\Rightarrow \quad p\,(e_{x1} + e_{x2}) + e_{y1} + e_{y2} = (2\sqrt{p} + 1)(e_{y1} + e_{y2})$$

$$\Rightarrow \quad p\,(e_{x1} + e_{x2}) = 2\sqrt{p}\,(e_{y1} + e_{y2})$$

$$\Rightarrow \quad \sqrt{p} = 2\,\frac{e_{y1} + e_{y2}}{e_{x1} + e_{x2}} \quad \Rightarrow \quad p = 4\left(\frac{e_{y1} + e_{y2}}{e_{x1} + e_{x2}}\right)^2$$

(Loi de Walras... → 1 marché suffit)

7) $e_1 = (3, 1)$ $e_2 = (5, 1)$ → $p = 1/4$

→ $X_1 = 14/4$, $X_2 = 18/4$

$Y_1 = 7/8$ $\quad Y_2 = 9/8$