A Simple Model of a Perfectly Competitive Firm

Assumptions

1. The firm produces two goods, x and y.

2. All necessary factors of production are in place and have been paid for.

3. The production possibilities frontier for this firm is given below.

4. The market prices of x and y are, respectively, €4 and €1 per unit.

Determine the optimum quantities of x and y produced by this profit-maximizing firm.
Mathematical Appendix

The underlying equations for the above Production Possibilities Frontier are:

\[ x = L_1^\beta \]
\[ y = L_2^\alpha \]
\[ L_1 + L_2 = L. \]

In the drawing of the above Production Possibilities Frontier the following assumptions have been made:

\[ \alpha = 0.85, \quad \beta = 0.50, \quad L = 100. \]