

Question #67011, Economics / Microeconomics

The input coefficient matrix P for an economy is given by $P = [0.0 \ 0.3 \ 0.3 \ 0.3 \ 0.1 \ 0.1 \ 0.2 \ 0.4 \ 0.0]$ and the final demand vector $D = [180 \ 20 \ 90]$ Find the output levels.

Answer:

$$\begin{array}{r} 0 \quad 0,3 \quad 0,3 \quad 180 \quad 99 \\ 0,3 \quad 0,1 \quad 0,1 * \quad 20 = 65 \\ 0,2 \quad 0,4 \quad 0 \quad 90 \quad 44 \end{array}$$

$$c_{11} = a_{11} \cdot b_{11} + a_{12} \cdot b_{21} + a_{13} \cdot b_{31} = 0 \cdot 180 + 0.3 \cdot 20 + 0.3 \cdot 90 = 0 + 6 + 27 = 33$$

$$c_{21} = a_{21} \cdot b_{11} + a_{22} \cdot b_{21} + a_{23} \cdot b_{31} = 0.3 \cdot 180 + 0.1 \cdot 20 + 0.1 \cdot 90 = 54 + 2 + 9 = 65$$

$$c_{31} = a_{31} \cdot b_{11} + a_{32} \cdot b_{21} + a_{33} \cdot b_{31} = 0.2 \cdot 180 + 0.4 \cdot 20 + 0 \cdot 90 = 36 + 8 + 0 = 44$$