Microeconomic analysis

Introduction

Linear algebra

Cost minimization

Analysis

Production

Intro

Demand

Duality

Profit Maximization

Markets

Exchange

Choice

Measurement of inputs and outputs

Input requirement set

$$V(y) = \{\mathbf{x} \text{ in } R_+^n : (\mathbf{y}, -\mathbf{x}) \text{ is in } \mathbf{Y})$$

Isoquant

$$Q(y) = \{\text{x in } R_+^n : \text{x is in } V(y) \text{ and x is not in } V(y') \text{ for } y' > \text{y}\}$$

Short run production possibilities set

$$Y(\overline{k}) = \{(y, -1, -k) \text{ in } Y : k = \overline{k}\}$$

Activity analysis

$$Y = \{(1, -1, -2), (1, -2, -1)\}$$

or

$$V(1) = \{(1, 2), (2, 1)\}.$$

Convex technologies

example

$$.25(100, 200) + .75(200, 100) = (175, 125)$$

$$t(100, 200) + (1 - t)(200, 100) = (100t + 200(1 - t), 200t + (1 - t)100)$$

Regular technologies