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MATHEMATIK FÜR ÖKONOMEN. I

(Mathematics for economists)

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Starting from the necessity for economists to handle mathematics, the authors have planned to compile three volumes meant to serve as textbooks for the assimilation of the mathematical element used in solving economic problems.

The authors have confined themselves, in this first volume, to present the part of mathematical analysis constituting an important instrument for solving relatively simple problems such as special production functions, elasticity of demand, etc. The notions referring to sets, numbers and functions, differential calculus, discussion of functions, integral calculus, queues, are clearly defined from the mathematical viewpoint and the examples chosen from the sphere of economy help to fix the material and show the practical manner in which the respective problems must be solved. Likewise, after treating functions from the mathematical standpoint, various functions in economy are presented: production demand, supply, cost, consumption, investment, aggregate production and aggregate supply functions as well as others.

To illustrate the notions presented concerning differentials and rules for differentiating, exponential, logarithmic, trigonometric, cyclometric and hyperbolic functions are expounded. A few convex or concave economic functions are shown, among which the elasticity of prices depending on demand. Further, a few special functions applicable in economy are dealt with, such as Engel's function, linear production function, Cobb-Douglas production function and CES production function.

In dealing with integral calculus, the authors follow the same method, viz.: after the theoretical-mathematical aspect of the definite and indefinite integral, of the basic theorem of integral calculus, of the substitution methods, of the partial integrating methods, of partial function integration have been presented, a few applications of integral calculus in economy are given.

Examples regarding the effect of the multiplier in isolated investments, the effect of the multiplier in permanent investments, annuities, complete the mathematical expounding of queues which refer to queues

with positive terms, absolute and conditioned convergence, uniform convergence and Taylor series.

The main merit of the volume under review is the clear mode in which the problems treated are expounded, as well as the adequate choice of the examples, thus allowing the notions to be easily assimilated and the reader to become familiar with the application of mathematics in the sphere of economy. This work likewise is an incentive for those who have read it to endeavour to apply in practice the notions acquired.

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