

The Stochastic Component of Pre-University Mathematical Training

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Abstract: The necessity of developing the content and technological components of the stochastics training system at the pre-university stage of mathematical training is substantiated. The contradictions that give rise to the problem of studying the scientific and methodological foundations of stochastic preparation are revealed. It is noted that the system of initial probabilistic-statistical knowledge and skills serves as a preliminary study for mastering the corresponding content block in the university course of mathematics. The distribution of probabilistic-statistical material according to the levels of education is proposed: elementary school, middle school, high school. The correlation between the indicated levels and tools of cognition of the stochastic facts is established (elementary school - visibility and intuition, middle school – logic and combinatorial principles, high school - logical and analytical tools). It is argued that the notion of probability should be preceded by the classification of events and the definitions of actions on them, and also that the primary idea of the probability of an event should be specified at each stage of pre-university training. Some technological methods for the introduction of probability-statistical concepts and facts are considered. In particular, step-by-step algorithms for determining of operations on events and calculating the classical probability of combined events are proposed. The main points of the study are illustrated by means of the original materials for assignments.