The role and place of mathematics in law
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Роль и место математики в юриспруденции
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Abstract: *currently, the curriculum of law schools include the study of the mathematics and computer science. This discipline, along with an increase in the general cultural level of students is intended to form a "technological" basis for the successful development of legal disciplines in respect of the use of modern information technologies and mathematical apparatus in the appropriate branch of law or professional activities. Undoubtedly, mathematics has a certain (but not defining) philosophical significance, but for lawyers, it increasingly serves as a tool of analysis, organization, management. The same methods as in mathematics, used to identify the truth in the law. Any lawyer should be able to think logically, to justify and prove their opinions, applying deductive. Thus, doing the math, the future lawyer shapes their professional thinking.*
Аннотация: *в настоящее время в учебных планах юридических вузов предусмотрено изучение курса математики и информатики. Данная дисциплина наряду с повышением общего культурного уровня обучаемых призвана сформировать «технологические» основы для успешного освоения юридических дисциплин в части, касающейся использования современных информационных технологий и математического аппарата в соответствующей отрасли права или профессиональной деятельности. В юриспруденции применяются те же методы, что и в математике, для выявления истины. Любой юрист должен уметь рассуждать логически, обосновывать и доказывать свои суждения, применяя дедуктивный. Таким образом, занимаясь математикой, будущий юрист формирует свое профессиональное мышление.*

Keywords*: mathematical thinking, mathematical methods, analysis, model operation.*
Ключевые слова: *математического мышления, математические методы, анализа, моделирование.*

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The current stage of development of society makes ever greater demands on the level of training of specialists in various fields. University graduates must possess mathematical methods and constantly use them in their professional activities. Provided discipline "Mathematics and Informatics". The state educational standards of higher professional education of almost all humanities. Mathematical discipline section summarizes the students' knowledge in mathematics as a science that reveals the connection between mathematics and computer science. This part of the discipline will systematize the knowledge of mathematics, received in a secondary school, and to develop understanding of the subject of modern mathematics, the integrity and the relationship of its sections [2,4].

Currently, the curriculum of law schools include the study of the mathematics and computer science. This discipline, along with an increase in the general cultural level of students is intended to form a "technological" basis for the successful development of legal disciplines in respect of the use of modern information technologies and mathematical apparatus in the appropriate branch of law or professional activities. Undoubtedly, mathematics has a certain (but not defining) philosophical significance, but for lawyers, it increasingly serves as a tool of analysis, organization, management.

That math brings this mindset, which requires critical examination and the rationale of certain positions and points of view. The element with the opinion - is a healthy grain of truth inherent in the process of mathematical thinking - anywhere and never hurt any professional. The same methods as in mathematics, used to identify the truth in the law. Any lawyer should be able to think logically, to justify and prove their opinions, applying deductive. Thus, doing the math, the future lawyer shapes their professional thinking.

Mathematics studies models of real processes and phenomena described in mathematical language. A man, who knows the language of mathematics, is able to penetrate deeper into the essence of real processes, correctly oriented in the surrounding reality. A significant role is played by the ability to correctly process information, statistical data or from the available statistical data reliable conclusions and forecasts. The value of a specialist possessing these skills, significantly increases.

Mathematics - a significant part of human culture, is as important as history, philosophy, economics, law. All the best achievements of human thought and form the basis of humanitarian, education, necessary to those skilled in the XXI. Therefore, the future lawyer mathematics primarily general subjects, such as the right to student math or physics.

Mathematics lays part of the "foundation" of training lawyers. Knowledge of some mathematical concepts and formulas and the ability to apply them in practice, will be useful in other academic disciplines studied-proxy on older years, "Information Rights", "Logic", "Criminology" etc... Man, formulating mathematical statement, conducting mathematical proof, it operates not ordinary and substantive speech, built according to certain laws (the brevity, clarity, conciseness, minimization, and so. D.). These qualities are so necessary for the formation of a professional speech lawyer. And, finally, learning math the most adequate to meet the principles of the system theory of developmental education: learning at a fairly high level of difficulty, the rapid pace of learning, the priority of the theory, a differentiated approach to students, and most importantly - the awareness of the learning process. Studying mathematics, people are constantly aware of the development.

That is why as a fundamental principle of mathematics education in the aspect of "Mathematics for Lawyers" to the fore the principle of priority developmental functions in education. In other words, learning mathematics is focused not so much on the actual mathematical education in the narrow sense of the word, but rather on education through mathematics. Thus, mathematics education should be seen as an important component of Basic Training lawyer. Mathematics is not only a powerful tool for solving applied problems and the universal language of science, but also an element of general culture. The main task of teaching mathematics is not only a study of the foundations of mathematics itself, and general intellectual development - formation of students in the process of studying the discipline of thinking qualities necessary for full human functioning in modern society, for a dynamic person to adapt to this society.

The area of law is a broad field of application for formal, abstract thinking and scientific methods, techniques, mathematical apparatus, allowing to find unambiguous, accurate solutions [3]. Currently, the following main areas of application can be distinguished mathematical methods to model the socio-legal phenomena and processes in the right [1]. One of the use of mathematical methods in the legal profession and the public administration is a law-making. All legal rules are in the form of logical reasoning, those. such proposals, in which anything is affirmed or denied about objects and relations of reality. Therefore, mathematical logic, and it can be used to study them. The use of means and methods of mathematical logic in the law-making process allows you to: improve the editorial rules of law, eliminate fuzzy language to simplify the cumbersome structure; explore the legal act on the consistency; symbolically submit legal knowledge for further automated processing and computerized search, to simulate the logical structure of legal norms; improve the level of logical completeness of regulations and rules of law, to improve their logical structure; specify the logical meaning and content of legal norms by means of interpretation; to carry out a logical examination of normative legal acts. Logical modeling makes it possible to clearly present a clear and clearly the logical structure of legal norms. This is particularly important when you consider that the verbal form of the rule of law can often hide or obscure the inherent logical connection. In legal practice, we can find legal rules that violate the requirements of logic, logical suffer defects. Therefore, the analysis of the law is of practical importance. The idea of applying mathematical methods to solve the problems of criminalistics and forensic examination it was suggested at the turn of XIX-XX centuries. A number of prominent criminologists (A. Bertillion, N.F Burinskiy, Balthazar). Suffice actively mathematical methods have been introduced to meet the challenges of forensic in the mid 50-ies. For the first time in the history of criminology carried out extensive work on counting the frequency of occurrence of various forensic features. Somewhat later, the apparatus of probability theory and mathematical statistics has been applied in the development of new methods of forensic examination of the portrait (Z.I. Kirsanov), lead and analytical research paper (B.M. Kolosova), fingerprint examination (A.Y. Paliashvili). Among all kinds of forensic examinations greatest practical importance are mathematical methods for handwriting and fingerprint examination. Methods of mathematical statistics and probability theory can be used to: assess the identification value of qualitative and quantitative features that characterize objects forensic solutions, as well as the complex of symptoms; study features of interdependence; evaluation of the reliability of identification. The reason the application of probabilistic and statistical methods to assess the indicia is a massive last, chance of their occurrence by virtue of the law of large numbers.

Mathematical statistics methods are widely used for the analysis of sociological statistical information officially documented information, providing quantitative characterization mass social events and phenomena [5]. These phenomena in the legal field include: crime, administrative offenses, an array of criminal and civil cases, and so on. Thus, the legal consciousness of society is made up of a vast number of individuals right minds. For the application of statistical methods in legal research is essential is the fact that many objects of legal practice are inherent statistical regularities. Thus, the legal consciousness of society is made up of a huge number of legal consciousness of individuals. Statistical ensemble formed on this basis. Another typical example is an array of offenses. Stylistic features and has a mechanism of action very rule of law: it is designed for multiple use and a lot of action in relation to various individuals in different social situations. Another math section, which can be effectively used in psychology, sociology, law, is the theory of pattern recognition. This branch of mathematics is focused on the development of methods for the isolation of important properties of a set of objects and setting for these properties of the object belonging to one of the known types. Initially, the concept of image arose in connection with the problem of modeling the phenomena of higher nervous activity, patterns of

human perception and computer objects in the outside world. In sociology, the model of pattern recognition theory has been successfully applied to the study of typological groups of migrants. The practical application of this objective remains valid today. In terms of pattern recognition can be described as an important process for the legal practice of human perception person. An example of recognition in investigative practice is a criminal proceedings, as "presentation for identification." The process of forensic identification can also be interpreted as of recognition of images. One of the important tasks of legal sociological research is to study the causes and contributing bonds. A special role here belongs to the multivariate analysis. Mathematical methods and computers are needed for the study of social phenomena in the relationship. Crime is a complex dynamic system. Since it is a system characterized by a number of factors, in particular the level, dynamics, structure, and relationships with other processes, phenomena, factors that in order to achieve a high degree of knowledge of such a system requires a deep and multifaceted study path which opens mathematical modeling, including using computer technology. To ensure a comprehensive research, improve the reliability of their results and visual display is expedient algorithmization on a mathematical basis of: a) the model of spatial and temporal distribution of crime; b) models of the dynamics of crime; c) factor models of crime; d) structural-dynamic models of crime. Reproduction of these models using a computer allows you to quickly make adjustments due to the change in the crime situation, to analyze patterns in their relationship, and therefore, gives more opportunities to make informed criminological forecasts, to develop the best forms and methods of combating crime, the most efficient use of the available means of prevention and crime detection.

After an investigation, like the rest of the criminal proceedings, is a system of complex relationships in which representatives faced with conflicting interests: the investigator and the defendant wanted and wanted and so forth. Thus, from the examples it is seen that the mathematical methods are widely used in law.

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