"A chord is drawn at random across a circle, and two points are taken at random within the circle; find the chance that both points lie on the same side of the random chord." The result $1 - \frac{128}{45\pi^2}$, is obtained by treating the distance of the chord from the centre as the independent variable. Why would it not be equally proper to take the arc subtended by the chord as the independent variable?

These problems, as stated, are indeterminate. The modes of including all possible ellipses and of choosing random chords must be fixed before the problems become definite.

It seems strange that an incorrect construction should be given for so elementary and easy a geometrical problem as No. 10,512. "Given four lines (in magnitude), construct two similar triangles each of which shall have two of the given lines as sides."

EDWARD L. STABLER.

NEW YORK, *December* 10, 1891.

NOTES.

THE annual meeting of the NEW YORK MATHEMATICAL SOCIETY was held Wednesday afternoon, December 30, at four o'clock, Professor Van Amringe presiding. The following persons having been duly nominated, and being recommended by the council, were elected to membership: Mr. Edwin Mortimer Blake, Columbia College; Professor Mary E. Byrd, Smith College; Professor Susan J. Cunningham, Swarthmore College; Mr. A. E. Kennely, Edison Laboratory; Mr. Alexander Kinseley, Lafayette, Ind.; Professor Anthony T. McKissick, Alabama Polytechnic Institute; Professor George D. Olds, Amherst College; Professor M. L. Pence, State College of Kentucky; Miss Amy Rayson, New York, N. Y.; Professor Benjamin Sloan, South Carolina College. The secretary reported that the membership of the Society was 210, of whom 37 lived in New York city and the immediate vicinity and were able to attend the meetings regularly. The treasurer's report having been read, an auditing committee was appointed to examine his accounts.

The nominating committee reported the following ticket for the officers and council of the Society for the ensuing year:—President, Dr. Emory McClintock; Vice-President, Professor Henry B. Fine; Treasurer, Mr. Harold Jacoby; Secretary, Dr. Thomas S. Fiske; other Members of Council, Professor J. K. Rees, Professor W. Woolsey Johnson, Professor

J. E. Oliver, Professor J. H. Van Amringe, Professor Thomas Craig. A ballot being taken this ticket was unanimously elected. At the invitation of the chair, Mr. R. S. Woodward briefly addressed the Society, referring to its work and aims, and expressing his hopes for its success and prosperity.

CONDENSED REPORT OF THE TREASURER FOR THE YEAR 1891.

Receipts.		*Expenditures.*	
Balance from 1890	$20.80	Printing Constitution......	$41.52
Net receipts from members and subscribers.........	974.24	" Bulletin...........	368.19
		Circulars, stationery, etc....	195.55
		Postage and miscellaneous..	118.78
		Balance.................	271.00
	$995.04		$995.04

HAROLD JACOBY, *Treasurer.*

We have examined the treasurer's accounts, and found the same correct.

G. L. WILEY,
T. E. SNOOK,
JAS. MACLAY, } *Auditing Committee.*

A REGULAR meeting of the NEW YORK MATHEMATICAL SOCIETY was held Saturday afternoon, January 2, at half-past three o'clock, the president in the chair. Professor D. S. Jacobus, of the Stevens Institute of Technology, having been duly nominated, and being recommended by the council, was elected a member. The following original papers were read: "Application of least squares to the development of functions," by Mr. Frank Gilman; "On the computation of covariants by transvection," by Dr. Emory McClintock. In Mr. Gilman's paper a method was given for finding a rational entire algebraic function of the n-th degree with numerical coefficients, which should approximately represent the value of a given function between certain limits of the variable, and which should furnish, in general between these limits, more accurate results than the first $n+1$ terms of its ordinary expression as a power-series. The numerical coefficients of the approximation were determined from the true values of the function calculated for values of the variable uniformly distributed between the limits, by the principle that the sum of the squares of its residuals should be a minimum. Dr. McClintock's paper contained an account of the general method for the computation of covariants of which a simple example, illustrating a special case, was given at the end of his article "On lists of covariants," published in No. 4 of the *Bulletin*, pp. 85–91. T. S. F.

In connection with Professor A. S. Hathaway's article "Early history of the potential" in No. 3, pp. 66–74, it may be remarked that the mistake of ascribing the discovery of the fundamental property of the force-function, or potential, to Laplace instead of Lagrange is a common one. In addition to the places mentioned by Professor Hathaway it is retained in the second edition of Maxwell's Electricity and Magnetism, vol. I. (1881), p. 14, and in the new edition of Thomson and Tait's Natural Philosophy, vol. I., part II. (1883), p. 28. Attention was called to this mistake by R. Baltzer in his note "*Zur Geschichte des Potentials,*" in Crelle-Borchardt's Journal, vol. 86 (1879), p. 216. The matter is also discussed in E. Heine's *Kugelfunctionen,* second edition, vol. II. (1881), p. 342, and in M. Bacharach's *Geschichte der Potentialtheorie* (1883), pp. 4–6.

None of these authors, however, mention the memoirs of Lagrange preceding that of October 2, 1777; so that it is of no little interest to see the first idea of the property of the force-function traced back in his writings to as early a date as 1763. Professor Hathaway's reference to Cayley's British Association Report for 1862 must be due to some oversight. The matter is not discussed there, nor is there any reference to Lagrange's memoir *Sur l'équation séculaire de la lune,* of 1773. A. Z.

In regard to the preceding note I have to state that Cayley's report on dynamics to which I intended to refer is in the *British Association Report* for 1857, p. 3. Besides the reference to Maxwell given by A. Z. there is another to page 74, where the error is repeated. A note just received from Professor P. G. Tait with reference to *nabla,* which is the quaternion vector-operation ∇, and not $-\nabla^2 = \frac{d^2}{dx^2} + \frac{d^2}{dy^2} + \frac{d^2}{dz^2}$, encloses a copy of his address "On the importance of quaternions in physics," *Philosophical Magazine,* January, 1890, p. 92. We quote: "Hamilton did not, so far as I know, suggest any name. Clerk Maxwell was deterred by their vernacular signification, usually ludicrous, from employing such otherwise appropriate terms as *sloper* or *grader;* but adopted the word *nabla,* suggested by Robertson Smith from the resemblance of ∇ to an ancient Assyrian harp of that name." A. S. H.

John Wiley & Sons have in preparation "An elementary course in the theory of equations" by Dr. C. H. Chapman of Johns Hopkins University.

Leach, Shewell & Sanborn have just published "A treatise on plane and spherical trigonometry" by Professor E. Miller of the University of Kansas. T. S. F.