

AC, CD, \dots , there is one segment within which Q lies or of which it is the left end point. (We conceive of the segment AB as extending from left to right.) Further let Q be the left end point of or lie within the k_2 'th segment of the division of the k_1 'th segment of AB , and so on. Thus we obtain a sequence of numbers k_1', k_2', k_3', \dots , corresponding to a definite sequence of segments which determine the point Q . The term $a_{i_1'j_1'} a_{i_2'j_2'} a_{i_3'j_3'} \dots$ is set in correspondence with the point Q by the process described above, provided $a_{i_1'j_1'}$ is the k_1 'th element of the determinant, $a_{i_2'j_2'}$ the k_2 'th element after $a_{i_1'j_1'}$ of those which can occur with it in a term of the expanded determinant, and so on.

(2) Two different terms $a_{i_1j_1} a_{i_2j_2} a_{i_3j_3} \dots$ and $a_{i_1'j_1'} a_{i_2'j_2'} a_{i_3'j_3'} \dots$ of the expanded determinant cannot be set in correspondence to the same point by this process. Suppose their k th factors are different. For the sake of simplicity of statement we suppose the first factors $a_{i_1j_1}$ and $a_{i_1'j_1'}$ are different. Then the corresponding points P and P' are end points of or lie within different segments of the sequence AC, CD, \dots , obtained by the division of AB . Hence these points can be identical only in case one, as P , is a right end point of one of these segments and P' the left end point of the next segment. But we noted above that in case a point determined by one of these sequences is a common end point of the segments of the sequence determining it, then it must be a left end point of such segments. Hence P and P' cannot be identical.

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The Theory of Sets of Points. By W. H. YOUNG and GRACE CHISHOLM YOUNG. Cambridge, University Press, 1906. xii + 316 pp.

THIS volume consists of a systematic presentation of the theory of sets of points. The titles of the chapters are: Rational and irrational numbers, Representation of numbers on the straight line, The descriptive theory of linear sets of points, Potency and the general idea of a cardinal number, Content, Order, Cantor's numbers, Preliminary notions of plane sets,