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This paper outlines the Point-Geometry, a new geometric-algebraic system. It introduces the concepts of point, addition of two points, product of a real number and a point, product of a complex number and a point, inner product of two points, and external products of two points and of three points. This paper explains the geometric meanings of the above concepts and operations, and presents important rules and theorems in the point-geometry. All points constitute an Abelian group, and the operations reflect important Euclidean transformations. The point-geometry possesses the merits of coordinate and vector methods, but avoids many intrinsic shortcomings (e.g., tedious calculation) in these traditional methods. The point-geometry is a powerful method in solving geometric problems. The authors have solved more than 600 nontrivial geometric problems, with most solutions simpler, easier, more understandable, and more beautiful than those using traditional methods. (Received September 13, 2018)