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A QUERY

Mr. A.D. Villanveva has sent in a query on the following geometrical problem.

Let ABCD be a quadrilateral, and let E and F be the points of intersection of the opposite sides produced. The segments AC, BD and EF are called the diagonals of the quadrilateral ABCD. Suppose we are given the lengths of the 3 diagonals of a quadrilateral which can be inscribed in a circle (i.e. concyclic). The problem is to construct the quadrilateral using compass and ruler only. Is the solution unique? Is the circumscribing circle unique? Is there a known relation between the lengths of the 3 diagonals?

Any reader who can help Mr. Villanveva is requested to write to the Editor.

