

PROBLEM OF THE WEEK
Solution of Problem No. 7 (Fall 2001 Series)

Problem: Prove that in a parabola no two chords bisect each other.

Solution (by the Panel)

Let the axis of the parabola P be along the positive x -axis. Two segments bisect each other if and only if they are the diagonals of a parallelogram. We show that no parallelogram is inscribed in a parabola. Let s be one side of the parallelogram and assume s does not intersect the axis of P . Then the parallel side t is above (below) (s) , hence shorter (longer) than s . If s intersects the axis, then the parallel side t is to the left (right) of s , hence shorter (longer) than s . There is no parallelogram inscribed in the parabola.

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