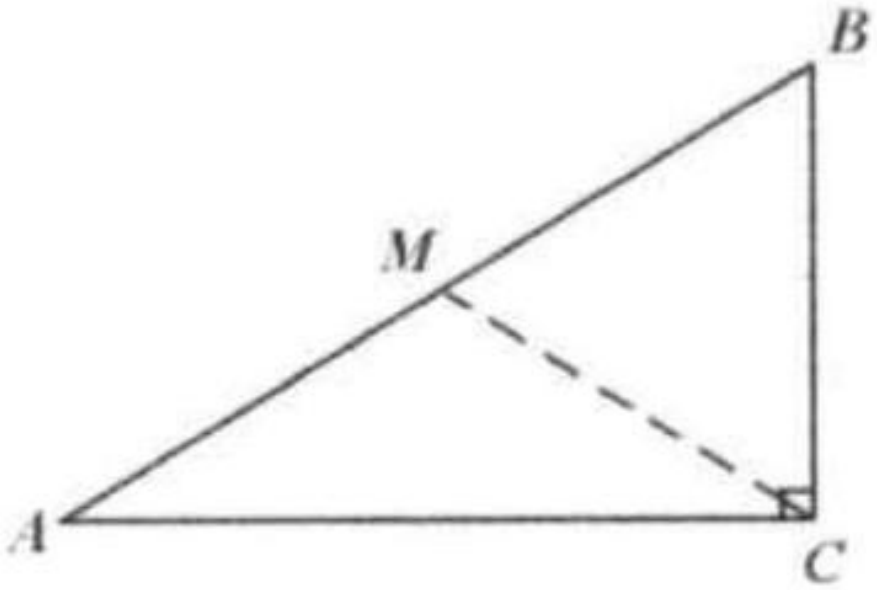
Example 2

Show that the measure of the median on the hypotenuse of a right triangle is one-half the measure of the hypotenuse ($AM = MB = MC$).

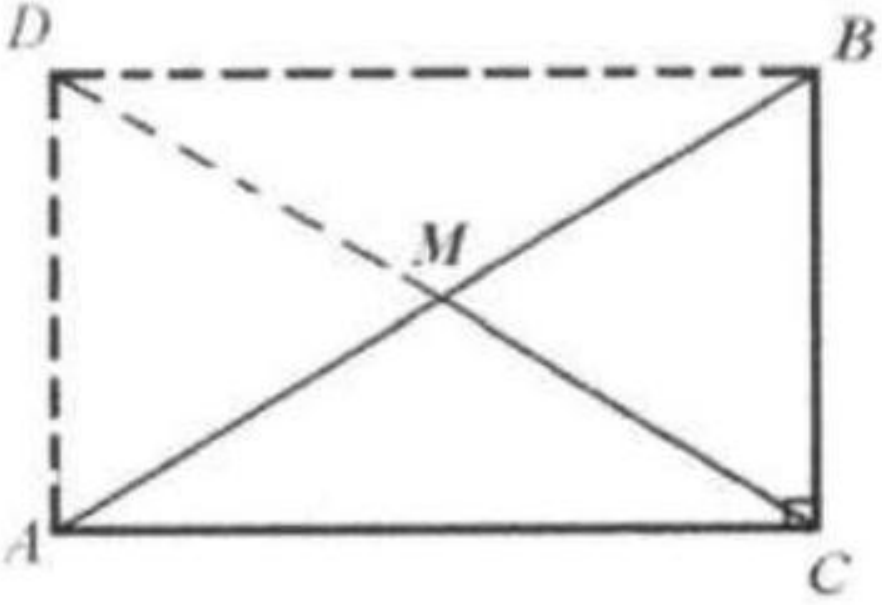
Proof: Extend CM to D such that $CM = DM$.



Connect BD and AD.

AB and CD are two diagonals and they bisect each other. So $ACBD$ is a parallelogram.

Since $\angle C = 90°, ACBD$ is a rectangle.



Thus $DM = MC = AM = MB$.