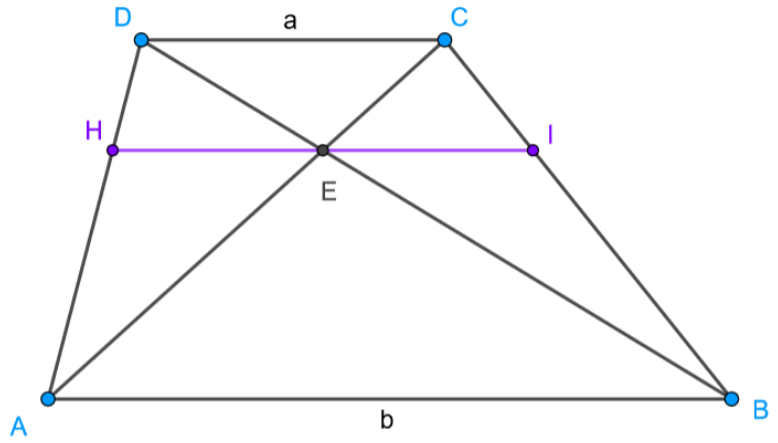


Given: Trapezoid ABCD.
 $\overline{CD} \parallel \overline{AB}$ and $CD = a$ and $AB = b$.
Diagonals \overline{AC} and \overline{BD} intersect at E.
 \overline{HI} is parallel to the bases of the trapezoid
and goes through E.

Prove: $HI = \frac{2ab}{a+b}$.



(That is, HI is the harmonic mean of a and b .)