Massaging a picture

CTTI

November 30, 2012

Lemma 0.1. *If two rectangles $ABGE$ and $WXYZ$ have equal content there is a rectangles $ACID$, with the same content as $WXYZ$ and satisfying the following diagram. Further the diagonals of AF and FH are collinear.*

Proof. Suppose AB is less than WX and YZ is less than AE. Then make a copy of $WXYZ$ as $ACID$ below. The two triangles are congruent. Let F be the intersection of BG and DI. Construct H as the intersection of EG extended and IC extended.

Now, prove F lies on AH.