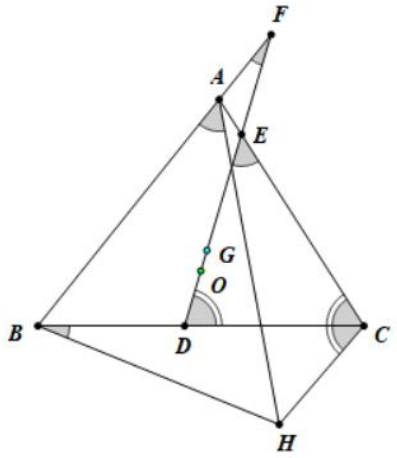
Example 20 : As shown in Figure 1, in the quadrilateral $ABHC$, O is any point, G is the center of gravity of $\triangle ABC$, OG intersects the three sides of BC, CA, and AB at D, E, and F *respectively*, if $\angle CBH = \angle OFB$, $\angle BAH = \angle DEC$, to prove: $\angle ODC$ *and* $\angle HCA$ are *complementary*.



$$\frac{(A-H)\dfrac{A+B+C}{3}}{(A-B)(C-A)}+\frac{(B-H)\dfrac{A+B+C}{3}}{(B-C)(A-B)}+\frac{(C-H)\dfrac{A+B+C}{3}}{(C-A)(B-C)}=0,$$