

Let  $H$  be the orthocenter of acute triangle  $ABC$ , let  $F$  be the foot of the altitude from  $C$  to  $AB$ , and let  $P$  be the reflection of  $H$  across  $BC$ . Suppose that the circumcircle of triangle  $AFP$  intersects line  $BC$  at two distinct points  $X$  and  $Y$ . Prove that  $C$  is the midpoint of  $XY$ .

