



Example 1 64 : As shown in Figure 1, the known point  $I$  is  $\triangle ABC$  the center of , and the extension line of  $AI$  intersects with  $DBC$ ,  $IG \perp BC$ ,  $G$  which is the vertical foot. Prove:  $\angle BID = \angle CIG$ .

$$-\left(\frac{I-G}{B-C}\right)^2 \frac{I-D}{A-C} \frac{B-A}{B-I} \frac{C-B}{C-I} = \left(\frac{I-D}{I-G}\right)^2 \frac{I-B}{I-C} \frac{C-A}{C-I},$$

$$\text{Proof: } \angle CIG = 90^\circ - \frac{1}{2} \angle ACB = \frac{1}{2} (180^\circ - \angle ACB) = \frac{1}{2} (\angle CAB + \angle ABC) = \angle BID .$$