



Example 157 : As shown in Figure 3, in $\triangle ABC$, I is the center, extend BI and CI to intersect the circle with BC as the diameter at M and N , and prove: $AI \perp MN$.

$$\left(\frac{A-I}{M-N} \right)^2 \frac{C-N}{C-A} \left(\frac{M-N}{C-N} \right)^2 \frac{(M-B)^2}{(I-A)^2} = 1,$$