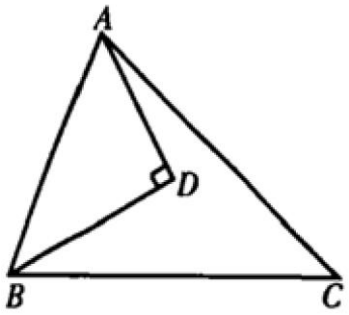

Example 1 37 : As shown in the figure, BD is the bisector of $\angle ABC$, $AD \perp BD$, and the vertical foot is D. Prove: $\angle BAD = \angle DAC + \angle ACB$.

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