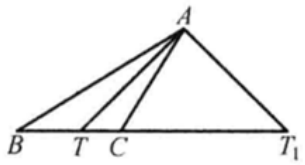
Example 181 : As shown in Figure 1, in △ ABC, ∠ACB -∠B =90° , *the bisectors of the inner and outer angles of* ∠BAC intersect BC *and* its extension line at T, T_1, and prove : $AT = AT_1$.



$$\left(\frac{\frac{T-A}{B-C}}{\frac{C-B}{T_1-A}}\right)^2\left(\frac{\frac{C-B}{C-A}}{\frac{B-A}{B-C}}\right)^2\frac{A-C}{A-T}\frac{B-A}{A-T_1}\frac{A-T}{A-B}\frac{A-T_1}{A-C}=-1,$$