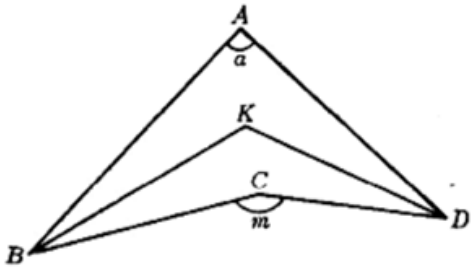
Example 125 : As *shown in Figure* 3 , the bisectors of $\angle ABC$ and $\angle ADC$ intersect at K. Prove : $\angle BAD + \angle BCD = 2\ \angle BKD$.



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