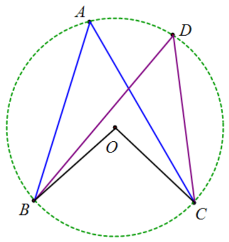

Example 57 : As shown in Figure 3, in $\angle DAC = \angle DBC \Leftrightarrow \angle ADB = \angle ACB$ quadrilateral $ABCD$, .

Proof: $\dfrac{\dfrac{B-C}{A-C}}{\dfrac{B-D}{A-D}} = \dfrac{\dfrac{D-A}{C-A}}{\dfrac{D-B}{C-B}}$.

Explanation: The above identity is obviously established, because the right side of the equation can be regarded as the simple adjustment of the left side. It seems to be a simple algebraic deformation, but it corresponds to a geometric property. Even the angle symbol does not appear in the identity, but the angle relationship is proved, and the original proposition and the inverse proposition are proved together. The premise of reading this proof is to understand the geometric meaning of the complex numbers in the identity. Its detailed representation is $\angle ADB = \angle ACB \Leftrightarrow \dfrac{\dfrac{B-C}{A-C}}{\dfrac{B-D}{A-D}} \in R \Leftrightarrow \dfrac{\dfrac{D-A}{C-A}}{\dfrac{D-B}{C-B}} \in R \Leftrightarrow \angle DAC = \angle DBC$.