



Example 55 : As shown in the figure, suppose O is a point on the quadrilateral $ABCD$ plane, AD intersects BC at P , AB intersects DC at Q , the necessary and sufficient condition for $\angle 1 = \angle 2$ is $\angle 3 = \angle 4$.

Suppose $O = 0$, $D = \frac{x\mathbf{A} + y\mathbf{B} + z\mathbf{C}}{x + y + z}$, $P = \frac{y\mathbf{B} + z\mathbf{C}}{y + z}$, $Q = \frac{x\mathbf{A} + y\mathbf{B}}{x + y}$, solve the

equation

$$k_1 \frac{\frac{Q}{A}}{\frac{P}{D}} + k_2 \frac{\frac{B}{C}}{\frac{A}{C}} = k_3, \text{ Available } (x + y)(y + z) \frac{\frac{Q}{C}}{\frac{A}{A}} - y(x + y + z) \frac{\frac{B}{A}}{\frac{C}{D}} = xz$$