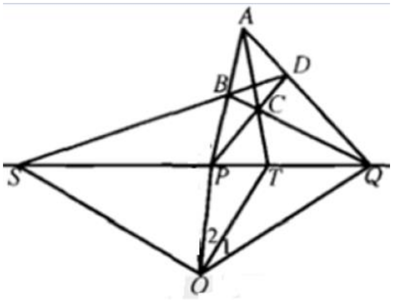

Example 46 : As shown in the figure, in the quadrilateral $ABCD$, AB intersects CD at P, AD intersects BC at Q, BD and AC intersect straight line PQ at S and T *respectively, and* the point O *is* outside the straight line PQ. The necessary and sufficient condition for proving $OS \perp OT$ *is* $\angle POT = \angle QOT$. _

Proof: Suppose $O=0$, $D=\frac{xA+yB+zC}{x+y+z}$, $P=\frac{xA+yB}{x+y}$, $Q=\frac{yB+zC}{y+z}$,

$S=\frac{xA+2yB+zC}{x+2y+z}$, $T=\frac{xA-zC}{x-z}$,

$$(x+2y+z)^2\left(\frac{S}{T}\right)^2-4(x+y)(y+z)\frac{\frac{P}{T}}{\frac{T}{Q}}=(x-z)^2.$$

O in the condition has a certain degree of activity, some special positions can be selected for compilation.