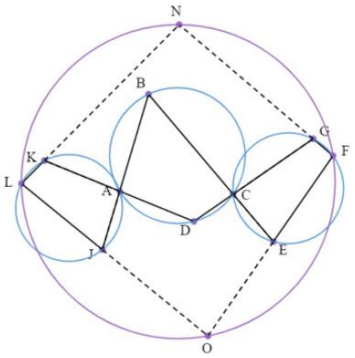

Figure 14: ABCD is a cyclic quadrilateral. G lies on DC extended, E lies on BC extended, J lies on BA extended and K lies on DA extended. CGFE and AKLJ are cyclic quadrilaterals. N is the intersection of LK and FG, O is the intersection of EF and JL. LNFO is a cyclic quadrilateral.

Example 2 32 : As shown in the figure, the quadrilateral $ABCD$ is inscribed in a circle , G is on the extension line of DC , E is on the extension line of BC , J is on the extension line of BA , and K is on the extension line *of* DA . $CGFE$ and $AKLJ$ are quadrilaterals inscribed in a circle. N is the intersection of LK and FG , O is the intersection of EF and JL . Prove: $LNFO$ is a quadrilateral inscribed in a circle.

$$\frac{\frac{A-O}{X-Y}}{\frac{S-K}{A-O}}=\frac{\frac{A-O}{A-B}}{\frac{B-A}{B-O}}\frac{\frac{C-B}{C-O}}{\frac{B-O}{B-C}}\frac{\frac{C-O}{C-A}}{\frac{A-C}{A-O}}\frac{\frac{B-A}{Y-X}}{\frac{Y-Z}{A-B}}\frac{\frac{Z-K}{B-C}}{\frac{C-B}{Z-Y}}\frac{\frac{A-C}{K-Z}}{\frac{K-S}{C-A}}.$$