## Pole and polar

Given a conic, for every line there is a unique point which is called the pole of that line with respect to the conic. The line is the unique line called the polar of the point with respect to the conic.


The tangents to the conic at the intersection points of any line through the pole $P$ with the conic intersect on the polar $A D . A$ is the pole of the polar $B C$ and $D$ is the pole of the polar $E F$.

Pole and polar shows clearly that the poles of the four polars that intersect in one point are colinear indeed. They also form a harmonic range.

