

Example 1 44 : As shown in Figure 3, it is known that A, B, C and E share a circle, A, B, F and D share a circle, E, F and B share a line, CE intersects DF at K , Prove: K, C, A, D four points share a circle.

$$\frac{\frac{D-F}{C-E}}{\frac{A-D}{C-A}} = \frac{B-F}{E-B} \frac{\frac{C-A}{E-C}}{\frac{D-A}{B-A}} \cdot \frac{D-F}{F-B}.$$

Explanation: If $\angle CAD = 180^\circ$, then point K is at infinity, $CE \parallel DF$. So it is the same as the previous question. This can be seen more clearly from the identity equation.