

An Application of Certain Geometrical Transformation, Especially on Poristic Theorems.

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J. V. Poncelet has proved the following elegant theorem in his celebrated work.⁽¹⁾

If there be a polygon inscribed in a conic K_1 and circumscribed to another conic K_2 , then an infinite number of such polygons exists, inscribed in K_1 and circumscribed to K_2 (called Poncelet's polygons); or if a Poncelet's polygon be constructed, then any polygonal configuration inscribed in K_1 and circumscribed to K_2 and starting from any point will always be closed: and conversely, if a polygonal series of points inscribed in K_1 and circumscribed to K_2 does not close, then every other such polygonal configuration will never be closed, wherever it may start from. (Fig. 1)

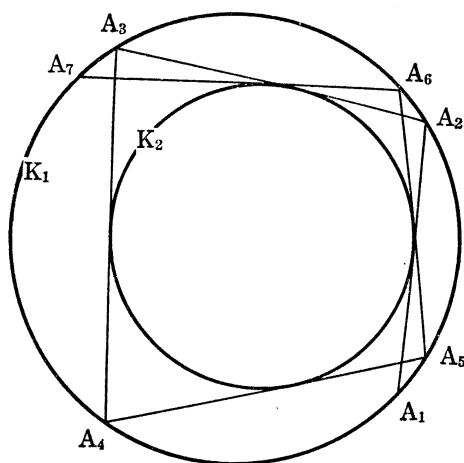


Fig. 1.

(1) *Traité der ropriétés projectives des Fugyres*, (1833), 361.