

3.15 Tangential Quadrilateral

Sides of a quadrilateral: a, b, c, d

Diagonals: d_1, d_2

Angle between the diagonals: φ

Radius of inscribed circle: r

Perimeter: L

Semiperimeter: p

Area: S

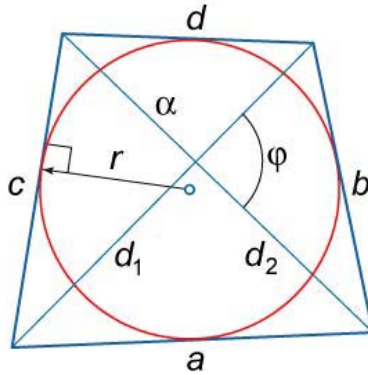


Figure 26.

242. $a + c = b + d$

243. $L = a + b + c + d = 2(a + c) = 2(b + d)$

244.
$$r = \frac{\sqrt{d_1^2 d_2^2 - (a - b)^2 (a + b - p)^2}}{2p},$$

where $p = \frac{L}{2}$.

245. $S = pr = \frac{1}{2}d_1d_2 \sin \varphi$