

The Brocard Points and the Brocard Angle.

By R. F. DAVIS, M.A.

FIGURE 6.

I. Construction for the Brocard points.

Let ABC be a triangle. Describe a circle touching AB in A and passing through C ; draw the chord AP parallel to BC . Join BP meeting this circle in Ω .

Join $A\Omega, C\Omega$.

$$\begin{aligned} \text{Then} \quad \angle \Omega AB &= \angle \Omega CA, \\ &= \angle \Omega PA \\ &= \angle \Omega BC. \end{aligned}$$

Similarly for Ω' .

II. Characteristic property of the Brocard angle.

Draw AX, PR perpendicular to BC .

Since AP, CQ are parallel chords,

the triangles ACX, PQR are congruent by symmetry ;
therefore $AX = PR, CX = QR$.

$$\begin{aligned} \text{Now} \quad BR &= BX + CX + CR \\ &= BX + CX + QX ; \end{aligned}$$

therefore, dividing each of the terms by the equals AX or PR ,

$$\begin{aligned} \cot \omega &= \cot B + \cot C + \cot AQC \\ &= \cot B + \cot C + \cot A. \end{aligned}$$

On the Solitary Permanent Wave: A continuation.

By J. M. COWAN, M.A., D.Sc.