

Confirmation of a straight line through a point inside circle intersects the circumference

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We assume the method and apparatus of Meth8/VL4 with \mathbb{T} as the designated *proof* value, \mathbb{F} as contradiction, \mathbb{N} as truthity (non-contingency), and \mathbb{C} as falsity (contingency). Results are a 16-valued truth table in row-major and horizontal, or repeating fragments of 128-tables for more variables.

LET p, q, r, s : exterior point p , interior point q , circle, straight line;
 \sim Not; $\&$ And; $+$ Or; $>$ Imply, greater than; $<$ Not Imply, less than; $=$ Equivalent.

"If a straight line is drawn through a point inside a circle, then the line intersects a point on the circle." (1.0)

We rewrite Eq. 1.0 as:

"If an interior point is inside the circle and an exterior point is outside the circle, then a straight line intersecting both points implies an exterior point is on the circle." (1.1)

$((q < r) \& (p > r)) > (((s > q) \& (s > p)) > (p = r)) ; \quad \mathbb{T} \mathbb{T} \mathbb{T} \mathbb{T} \quad \mathbb{T} \mathbb{T} \mathbb{T} \mathbb{T} \quad \mathbb{T} \mathbb{T} \mathbb{T} \mathbb{T} \quad \mathbb{T} \mathbb{T} \mathbb{T} \mathbb{T} \quad (1.2)$

Eq. 1.2 is tautologous, hence confirming that a straight through a point inside a circle intersects the circumference of the circle.