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THE ELEMENTARY METHOD OF CONSTRUTHCTION THE RIGHT POLYGONS

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We remind (see e.g.[1],ch.III), that in the investigation of problems of geometric (by a ruler and compasses) on construction of right polygon C.F.Gauss proved, that construction of the right "p-gons" (for prime members) is possible if and only if p is the number of type $p= 2^{2^n} +1$.

Below we give the way of construction of right polygon for arbitrary number p.

Let OA=r be a radius of a circle (with O center).We mark points M_i , (i=1,…,p) along the arch

from $A=M_0$ with equal distance from each other. Possibility of this division is evident. Now we consider the sector $OM_0 M_p$. If we form a spatial convex figure compressing sides OM_0 and OM_p we construct the circular with length of the circle in the base of which is M_0M_p curve of sector. The points $M_0,M_1,\ldots,M_{p-1},M_p= M_0$ form right "p-gon".

Reference

1. R.Courant, H.Robbins. What is Mathematics.N.-Y.,1941

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