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ELEMENTARY GEOMETRICAL CONSTRUCTIONS ON THE HIPERBOLIC PLANE

There is advanced and rather well-known theory involving geometrical constructions on the euclidean plane. At the beginning of XX century hiperbolic geometry appeared as some alternative to euclidean geometry. One of the originates of it was Einstein's theory of relativity. Indeed, it turned out that hiperbolic geometry may be the geometry of the universe (although for our "little" scale, here on the earth, euclidean geometry is absolutely sufficient). Hiperbolic geometry was developed in order to express as much as it is possible of classical geometry, including theory of constructions.

There are more tools to make constructions on the hiperbolic plane than on the euclidean one. Besides "classical" instruments as a ruler or a compass we are able to draw and use another homogeneous curves – horocycles and equidistant curves. There arises a questions: are they essential (or we are able to eliminate them in our constructions), may we relieve cycles bym them? Both of these questions have positive answers contained in, for instance, „*Geometriczeskoje pastrajenia w płaskosti Łobaczewskiego*” written by A. S. Smogorzewski.

In this paper some problems involving constructions on the hiperbolic plane are considered. It is presented on a few examples, that three construction systems are on this plane equivalent. Indeed, one can make the same constructions using lines and either cycles or horocycles or equidistant curves. In particular, qualitative instead of analytical proofs are preferred.