

Eötvös Mathematical Competition 1895

1. Prove that there are exactly $2(2^{n-1} - 1)$ ways of dealing n cards to two persons. (The persons may receive unequal numbers of cards.)
2. Construct a point N inside a given right triangle ABC such that the angles $\angle NBC$, $\angle NCA$ and $\angle NAB$ are equal.
3. Given the circumradius R of a triangle, a side length c , and the ratio a/b of the other two side lengths, determine all three sides and angles of this triangle.

