Abstract

A long standing result in number theory is Wilson’s Theorem, which states that $n$ is a prime number if and only if $(n - 1)! \equiv -1 \mod n$. One motivation for this study is to detect some algebraic congruence relations which naturally arise in this number theoretic context, strictly through geometric constructions. Some examples of such congruence relations are presented. Namely, than $n$ is an odd prime if and only if $(n - 2)! - n(n - 3)/2 \equiv 1 \mod (n^2 - 2n)$. Also if $n$ is an odd prime, one has $(n - 2)((n - 1)! + (n - 1)) \equiv 1 \mod (n^2 - 2n)$.

References

A Geometric Construction Involving Wilson's Theorem

Index Terms

Computer Science

Applied Mathematics

Keywords

Chimney, Sleeve, Wilson's Theorem, Geometric Construction