ZMATH 2015e.00554

Herman, Marlena; Schiffman, Jay

Investigating home primes and their families.

Math. Teach. (Reston) 107, No. 8, 606-614 (2014).

Summary: The process of prime factor splicing to generate home primes raises opportunity for conjecture and exploration. The notion of home primes is relatively new in the chronicle of mathematics. *J. Heleen* [J. Recreat. Math. 28, No. 2, 116–119 (1996–97; ME 1998a.00005)] first described a procedure called prime factor splicing (PFS). The exploration of home primes is interesting and accessible to anyone who understands prime factorization. Heleen's algorithm for PFS initiated fascination with the topic of home primes and served as the impetus for mathematicians around the globe to delve more deeply into computation methods and conjectures. Computer algebra system (CAS) technologies are now used to explore new mathematical insights and content. Investigating home primes can be a valuable experience at the secondary school level, a creative activity that fires the imagination of students as it introduces them to the research process. Here, the authors introduce the notion of home primes as part of a number theory unit in an effort to show students that mathematics is an ever-growing field of study, with new topics and themes continually emerging and developing, rather than being a stagnant field of facts. Although the students in this project were preservice teachers, the following ideas can be adapted to students at many different levels in various classroom settings. (ERIC)

Classification: F60 U70
Keywords: prime numbers; activities; home primes; prime factors; computer algebra system; prime factor splicing
http://www.nctm.org/publications/article.aspx?id=41401