1077-11-104   **David Applegate**, **Marc LeBrun** and **Neil J. A. Sloane*** (`njas@research.att.com`), AT&T Shannon Labs, 180 Park Ave., Room C233, Florham Park, NJ 07932-0971. *Dismal Arithmetic.*

Dismal arithmetic is just like the arithmetic you learned in school, only simpler: there are no carries, when you add digits you just take the largest, and when you multiply digits you take the smallest. This paper studies basic number theory in this world, including analogues of the primes, number of divisors, sum of divisors, and the partition function. There are many open problems concerned with the enumeration of primes, divisors, and square roots. (Received July 27, 2011)