1052-11-164   **Mitsuo Kobayashi*** (`mitskobay@dartmouth.edu`), 6188 Kemeny Hall, Hanover, NH 03755. *On the Density of Abundant Numbers.* Preliminary report.

Following terminology from antiquity, a natural number is said to be abundant if it is smaller than the sum of its proper divisors. Since Davenport, we know that the abundant numbers have a positive asymptotic density, and from Behrend we know that this density is between 0.24 and 0.32. Henri Cohen asked if it could be determined whether it is less than, equal to, or more than 1/4. This was settled by Deléglise when he computed that it is $0.247\ldots$. We will discuss recent improvements to the algorithm of Deléglise which allows us to discover the next decimal digit. (Received August 26, 2009)