1145-05-127 **Jacob Liddy*** (liddyjacob@gmail.com), Department of Mathematics, Buchtel College of Arts and Sciences, The University of Akron, Akron, OH 44325-4002, and **Jeffrey M. Riedl** (riedl@uakron.edu), Department of Mathematics, Buchtel College of Arts and Sciences, The University of Akron, Akron, OH 44325-4002. *Generating All Odd Primitive Abundant Numbers with d Prime Divisors.*

For an integer n, if the sum of the proper divisors of n equals or exceeds n, then we say that n is an *abundant number*. An abundant number is said to be *primitive* if none of its proper divisors are abundant. An abundant number must have at least one primitive abundant divisor. In 1913, Dickson proved that for an arbitrary positive integer d there exists only finitely many odd primitive abundant numbers having exactly d distinct prime divisors. In 2017, all odd primitive abundant numbers with up to 5 distinct prime divisors have been found by Dičiūnas. In this paper, we describe a fast algorithm that finds all odd primitive abundant numbers with d distinct prime divisors. We use this algorithm to find all odd primitive abundant numbers with 6 distinct prime divisors. An abundant number n is said to be *weird* if no subset of the proper divisors of n sums to n. We use our algorithm to show that an odd weird number must have at least 6 prime divisors. (Received August 06, 2018)