1052-11-29 **Kevin Ford*** (ford@math.uiuc.edu), Deptartment of Mathematics, University of Illinois at Urbana-Champaign, 1409 West Green St., Urbana, IL 61801, **Florian Luca** (fluca@matmor.unam.mx), Instituto de Matematicas, Universidad Nacional Autonoma de Mexico, C.P. 58089 Morelia, Mexico, and **Carl Pomerance** (carl.pomerance@dartmouth.edu), Department of Mathematics, Dartmouth College, Hanover, NH 03755. *Common values of the arithmetic functions ϕ and σ.*

In 1958, Paul Erdős conjectured that there are infinitely many solutions of the equation $\phi(a) = \sigma(b)$, where ϕ is the Euler totient function, and σ is the sum-of-divisors function. We prove this conjecture, and moreover show that there is some constant $c > 0$ and infinitely many n so that $\phi(a) = n$ has more than n^c solutions and $\sigma(b) = n$ has more than n^c solutions. Our results depend on results about primes in arithmetic progressions, and recent bounds for prime chains due to Ford, Konyagin and Luca. (Received July 18, 2009)