1046-11-762 **Yi Sun*** (yisun@fas.harvard.edu), 206 Cabot Mail Center, 60 Linnaean St., Cambridge, MA 02138. *On the cyclotomic Littlewood polynomials.*

We study cyclotomic polynomials of odd degree with coefficients in the set $\{-1, +1\}$. In 1999, P. Borwein and K. K. Choi conjectured that $P(x)$ is a cyclotomic polynomial of degree $N-1$ with coefficients in the set $\{-1, +1\}$ if and only if

$$P(x) = \pm\Phi_{p_1}(\pm x)\Phi_{p_2}(\pm x^{p_1}) \cdots \Phi_{p_k}(\pm x^{p_1 p_2 \cdots p_{k-1}})$$

for some (not necessarily distinct) primes $p_1, p_2, \ldots, p_k$ such that $N = p_1 p_2 \cdots p_k$. Here $\Phi_p(x) = 1 + x + \cdots + x^{p-1}$ is the p^{th} irreducible cyclotomic polynomial. They proved this conjecture for polynomials of even degree. In 2008, S. Akhtari and K. K. Choi proved the conjecture for degree $2^a p^b - 1$ with p an odd prime and for $P(x)$ separable. By using Newton's identities to compare the power sums of $P(x)$ with a specific class of power sums, we prove the conjecture for degree $2^t pq - 1$ with $p, q > 2^{t+1}$ odd primes. In particular, this resolves the case of degree $2pq - 1$. (Received September 11, 2008)