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The trinomials  $p(z) = z^n + z^k - 1$  with  $1 \leq k \leq n - 1$  have unimodular roots (roots of modulus 1) if and only if  $6g$  divides  $n + k$ , where  $g = \gcd(n, k)$ . The factor of  $p(z)$  consisting of the unimodular roots has a particularly simple form and is equal to a cyclotomic polynomial whenever the prime factorization of  $g$  contains only 2's and 3's. If  $g$  contains other primes in its factorization, then the unimodular factor is divisible by a cyclotomic polynomial. In cases where  $g$  is a prime and  $g \geq 5$  we can express certain cyclotomic polynomials as a ratio of two trinomials. (Received September 19, 2016)