1156-14-392 **Aaron D. Wootton*** (wootton@up.edu), 5000 N Willamette Blvd, Portland, OR 97203. *Cyclic surfaces with multiple defining equations.*

A compact Riemann surface S is said to be cyclic n-gonal if it has a defining equation of the form $y^n = q(x)$ for some polynomial $q(x)$, or equivalently, if it admits a conformal automorphism τ of order n such that the quotient space $S/\langle\tau\rangle$ has genus 0. For a given n-gonal surface S, one natural question to ask is whether the morphism τ is unique. That is, does there exists a conformal automorphism λ of S of order m (not necessarily equal to n) with $\lambda \notin \langle\tau\rangle$ and $S/\langle\lambda\rangle$ of genus 0? Such a surface would then admit an equation of the form $y^m = r(x)$ which might be significantly different to the equation $y^n = q(x)$. In this talk we shall discuss the classification of all such surfaces under the assumption that n and m are prime numbers. We shall also consider why the problem becomes much harder when for non-primes. (Received January 28, 2020)