1116-VN-2884 **Julian H Rosen*** (`julianrosen@gmail.com`). *Multiple harmonic sums in number theory.* Preliminary report.

Multiple harmonic sums are rational numbers generalizing the partial sums of the harmonic series. These numbers have rich arithmetic structure and are connected in surprising ways to many areas of number theory. I will describe some of these connections, and outline an algorithm for using multiple harmonic sums to find/prove congruences involving a wide variety of other quantities, including binomial coefficients, Fermat quotients, and values of p-adic L-functions. I will also describe a Galois theory for congruences involving these quantities. (Received September 22, 2015)