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**John Risher\*** ([risherjt@email.sc.edu](mailto:risherjt@email.sc.edu)), 807 Hampton St., Walterboro, SC 29488. *Alternate Proofs for Two Inequalities with Geometric and Harmonic Means.*

For sequences  $\{a_i\}$ ,  $\{b_i\}$ , and  $\{a_i + b_i\}$ , let  $G_a$ ,  $G_b$ , and  $G_{(a+b)}$  be their geometric means respectively, and let  $H_a$ ,  $H_b$ , and  $H_{(a+b)}$  be their harmonic means respectively. Using our own method, we proved the two inequalities,  $G_a + G_b \leq G_{(a+b)}$  and  $H_a + H_b \leq H_{(a+b)}$ , which were introduced by Hardy, Littlewood, and Polya in their book, *Inequalities*. We also generalized these two inequalities to the case of m-sequences:  $G_{(a_1)} + \cdots + G_{(a_m)} \leq G_{(a_1+\cdots+a_m)}$ , and  $H_{(a_1)} + \cdots + H_{(a_m)} \leq H_{(a_1+\cdots+a_m)}$ . (Received August 17, 2016)