University of Colorado
Department of Mathematics
Problem of the Month
April 2014

Let $f(x) \in \mathbb{Q}[x]$ be a rational polynomial that is irreducible of prime degree p. Suppose that the complex roots of f are $\alpha_1, \ldots, \alpha_p$. Show that the sums $\alpha_i + \alpha_j$, $1 \leq i < j \leq p$, are all distinct.