

1135-14-2960 **Neriman Tokcan*** (tokcan@umich.edu), 530 Church Street, Ann Arbor, MI 48109. *On the Waring rank of binary forms.*

The K -rank of a binary form f in $K[x, y]$, $K \subseteq \mathbb{C}$, is the smallest number of d -th powers of linear forms over K of which f is a K -linear combination. We provide lower bounds for the \mathbb{C} -rank (Waring rank) and for the \mathbb{R} -rank (real Waring rank) of binary forms depending on their factorization. We completely classify binary forms of Waring rank 3. (Received September 26, 2017)