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8. Analysis

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On Meromorphic Starlike and Convex Functions

It is well known that Marx and Strohhacker (in 1932/1933) proved if f is a convex univalent function, then f is a starlike univalent function of order 1/2. Subsequently, Macgregor [J. London. Math. Soc., 9 (1975), 530–536] and Wilken and Feng [J. London. Math. Soc., 21 (1980), 287–290] showed that if f is a convex univalent function of order $\alpha(0 \leq \alpha < 1)$, then f is a starlike univalent function of order $\beta = \beta(\alpha)$ for some β. In this paper we show that the meromorphic convex univalent functions and meromorphic starlike univalent functions do not have the same relationships as those between the convex univalent functions and starlike univalent functions.