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The discretization of complex analytic functions associated with the circle packings or circle patterns was initiated by Thurston in 1985. An important example is the discrete power function associated with the circle patterns of Schramm type introduced by Bobenko in 1996. An interesting connection to the sixth Painlevé transcendent has also been pointed out by Agafonov and Bobenko. In this talk, we present an explicit formula for the discrete power function in terms of the hypergeometric τ functions of the sixth Painlevé equation, which are the determinants whose entries are given by the Gauss hypergeometric functions. We also consider some generalizations of the discrete power function based on this formula. (Received January 17, 2012)