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A Prüfer domain will be said to be Archimedean if all of its local value groups are Archimedean. We will construct a norm  $N$  on the set of ideals of an Archimedean Prüfer domain using the surreal numbers, that satisfies the property that  $N(IJ) = N(I) + N(J)$  for all ideals  $I, J \subseteq D$ . Turning our attention to Prüfer domains of finite character (every element is in only finitely many maximal ideals) we show that every ideal factors uniquely into a product of generalized prime powers. We also show that any atomic Prüfer domain of finite character is necessarily a bounded factorization domain. (Received September 02, 2014)