

Number Theory Project  
Ramanujan's Work on Partitions  
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**Definition 0.0.1:  $q$ –Pochhammer Symbol**

$$(a)_0 := (a; q)_0 := 1$$

$$(a)_n := (a; q)_n := \prod_{k=0}^{n-1} (1 - aq^k), \quad n \geq 1$$

$$(a)_{\infty} := (a; q)_{\infty} := \prod_{k=0}^{\infty} (1 - aq^k), \quad |q| < 1$$

Here  $q$  is called the base and if the identification of the base is clear, we often omit  $q$  from the notation.