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Asymptotic Formulae

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Abstract: Let $t_{s,n}$ be the n-th positive integer number which can be written as a power p^t, $t \geq s$, of a prime p ($s \geq 1$ is fixed). Let $\pi_s(x)$ denote the number of prime powers p^t, $t \geq s$, not exceeding x. We study the asymptotic behaviour of the sequence $t_{s,n}$ and of the function $\pi_s(x)$. We prove that the sequence $t_{s,n}$ has an asymptotic expansion comparable to that of p_n (the Cipolla's expansion).