Let $p$ be a prime and $Q$ a polynomial with integer coefficients. Define the sequence $x[n]$ by $x[0] = 1$ and $x[n] = Q[n]x[n-1]$. Under certain conditions on $Q$, the $p$-adic valuation of $x[n]$ grows linearly with $n$. The slope is related to the number of roots of $Q$ in the $p$-adic ring $\mathbb{Z}_p$. We present some conjectures on the corresponding error term. (Received September 14, 2008)