Addendum to the paper "On two theorems of Gelfond and some of their applications" (Acta Arith. 13 (1967), pp. 177—236)

by

A. SCHINZEL (Warszawa)

In the formulation of Theorem 15 (p. 232) occurs the product

\[ \prod_{i=1}^{n} \left( 1 - \frac{1}{u_i} \right), \quad u_i \geq 3, \quad u_{i+1} = u_i^2 - 2. \]

I have overlooked that already in 1929 A. Ostrowski [1] gave the value of this product as

\[ \frac{\sqrt{u_i^2 - 4}}{u_i + 1} \]

(i.e. formula (7.10)). Hence Theorem 15 takes the form:

**Theorem 15'.** If \( f(x) \) is any polynomial of degree \( \nu > 1 \) with integer coefficients then

\[
\lim_{x \to \infty} \frac{\log q(f(x))}{\log x} \leq \begin{cases} 
\frac{1}{2} \sqrt{5} & \text{for } \nu = 2, \\
\frac{1}{2} \sqrt{21} & \text{for } \nu = 3, \\
\sqrt{(\nu-1)^2 - 4} & \text{for } \nu > 3.
\end{cases}
\]

Reference


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