The sequence $a(1), a(2), a(3), \ldots$ of reals is called \textit{subadditive} if $a(n + m) \leq a(n) + a(m)$ holds for all integers $n, m \geq 1$. Fekete’s lemma (1923) states that the sequence $\{a(n)/n\}$ has a limit (possible negative infinity). Let $f(n)$ be a non-negative, non-decreasing sequence. deBruijn and Erdős (1952) called the sequence $\{a(n)\}$ \textit{nearly $f$-subadditive} if
\begin{equation}
    a(n + m) \leq a(n) + a(m) + f(n + m)
\end{equation}
holds for all $n \leq m \leq 2n$. They showed that if the error term $f$ is small,
\begin{equation}
    \sum_{n=1}^{\infty} f(n)/n^2 \text{ is finite,}
\end{equation}
then the limit $\{a(n)/n\}$ still exists. We show that the deBruijn-Erdős condition (2) for the error term is not only sufficient but also necessary in the following strong sense. If $\sum_{n=1}^{\infty} f(n)/n^2 = \infty$, then there exists a nearly $f$-subadditive sequence $\{b(n)\}$ such that the sequence of slopes $\{b(n)/n\}$ takes every rational number. On the other hand, we show that their condition can be weakened such that the limit exists if (1) holds only for the pairs $n \leq m \leq cn$ for some fixed $c > 1$. (Received August 20, 2018)