

11. To be proved: $\lim_{x \rightarrow 1} (3x + 1) = 4$.

Proof: Let $\epsilon > 0$ be given. Then $|(3x + 1) - 4| < \epsilon$ holds if $3|x - 1| < \epsilon$, and so if $|x - 1| < \delta = \epsilon/3$. This confirms the limit.