The foundations of the rigorous study of *analysis*were laid in the nineteenth century, notably by themathematicians Cauchy and Weierstrass. Central to thestudy of this subject are the formal definitions of*limits* and *continuity*.Let D be a subset of $\mathbf{R}$ and let$f\colon D \to \mathbf{R}$ be a real-valued function on$D$. The function f is said to be *continuous* on$D$ if, for all $\epsilon > 0$ and for all $x \in D$,there exists some $\delta > 0$ (which may depend on x)such that if $y \in D$ satisfies —y - x— ¡ $\delta then|f(y)-f(x)| < \epsilon.Onemayreadilyverifythatiffandgarecontinuousfunctionson$D$thenthefunctions$f+ g$and$f.g$arecontinuous.Ifinaddition$g$iseverywherenon-zerothenf/giscontinuous.$