

Determine continuity of $\mathbf{f} : \mathbf{R}^n \rightarrow \mathbf{R}^n$, where

$$\mathbf{f}(\mathbf{a}) = \begin{cases} \frac{\mathbf{a}}{\sqrt{|\mathbf{a}|}} & , \mathbf{a} \neq \mathbf{0} \\ \mathbf{0} & , \mathbf{a} = \mathbf{0} \end{cases}$$