PROBLEM

In [0,1] Lagranges Mean Value theorem is NOT applicable to *(2003S)*

(a) $f(x)=\begin{cases}\frac{1}{2}-x & x<\frac{1}{2}\\ \left(\frac{1}{2}-x\right)^2 & x\geq\frac{1}{2}\end{cases}$

(b) $f(x)=\begin{cases}\frac{\sin x}{x}, & x\neq 0\\ 1, & x=0\end{cases}$

(c) $f(x)=x|x|$

(d) $f(x)=|x|$

SOLUTION

(a) There is only one function in option (a) whose critical point $\frac{1}{2}\in(0,1)$ for the rest of the parts critical point