

Help w/calculus problem

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- *From:* "Dean_Travers" <dean_travers@xxxxxxxx>
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Hello--

I'm currently studying arc length and have reached a problem at the end of the chapter's exercises which has me stumped; I've tried a couple of tutors and haven't had any luck. The problem is as follows:

Let $y = f(x)$ be a smooth curve and suppose $f'(x)$ is greater than or equal to 0 on the closed interval $[a, b]$. Prove: there are numbers m and M such that m is less than or equal to $f'(x)$ is less than or equal to M for all x in $[a, b]$.

If anyone here would be kind enough to offer their insights, advice, guidance—it would be greatly appreciated.

Thanks,
Dean

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