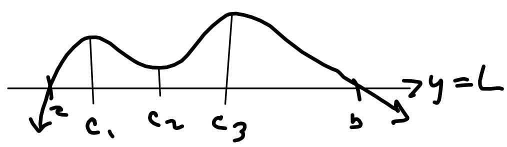
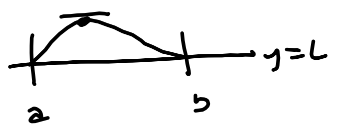
Rolle's:

Given: f cnt^s on $[a,b]$,
f difb^l on (a,b), and $f(a)=f(b)=L$
$\Rightarrow \exists\, c \in (a,b) \ni f'(c)=0$



Pf If $f(x)=L\ \forall\ x \in (a,b)$,
then we're done. $f'(c)=0\ \forall\ c \in (a,b)$
If $f(x)>L$ anywhere, then f has
an abs max in $[a,b]$, and it's not
@ a or b, so, by Fermat, $f'(c)=0$ somewhere
in (a,b)



If $f(x)<L$ anywhere, then f has an abs
min* in $[a,b]$ and it's not @ a or b
By Fermat, $f'(c)=0$
* at some $x=c$, i.e., $f(c)$ is a min