

The geometric interpretation of f'' :

the second derivative test for extreme values.

the second derivative test for local extreme values.

The geometric interpretation of f'' :

2. If $f''(x) < 0$ then the slope of the tangent line is decreasing in value
 \implies if $f'(c) = 0$ and $f''(c) < 0$, then around c , $f(x)$ is a hump/peak
 \implies we can expect a local maximum value of f at c

possible shapes:



saddle or inflection points

c

c