

recall: the second derivative

The geometric interpretation of f'' :

recall: the second derivative

- To characterize troughs and humps we need the second derivative
- We can view $f'(x)$ itself as a function that we differentiate it again:

$$\frac{d}{dx} (f'(x)) = \frac{d^2}{dx^2} (f(x)) = f''(x)$$

The geometric interpretation of f'' :

1. $f''(x) > 0$
2. $f''(x) < 0$
3. $f''(c) = 0$

the second derivative test for local extreme values.