

second derivative

The geometric interpretation of f'':

## 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:

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

The geometric interpretation of f'':

1. 
$$f''(x) > 0$$

2. 
$$f''(x) < 0$$

$$3. f''(c) = 0$$

## second derivative