Higher Order Derivative Rule

Higher Order Derivatives

$$f'(x), f''(x), f'''(x), f^{iv}(x)$$

$$\frac{dy}{dx}, \frac{d^2y}{dx^2}, \frac{d^3y}{dx^3}, \frac{d^4y}{dx^4}$$

$$y', y'', y''', y'''', y^{(4)}$$

$$D_x(y), D_x^2(y), D_x^3(y) D_x^4(y)$$

Note that
$$\frac{d^2y}{dx^2} = \frac{d}{dx} \left(\frac{dy}{dx}\right)$$
 or $\frac{dy'}{dx}$

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$$f'(x), f''(x), f'''(x), f^{iv}(x)$$

$$\Rightarrow \frac{dy}{dx}, \frac{d^2y}{dx^2}, \frac{d^3y}{dx^3}, \frac{d^4y}{dx^4}$$

$$D_x(y), D_x^2(y), D_x^3(y) D_x^4(y)$$

Note that
$$\frac{d^2y}{dx^2} = \frac{d}{dx} \left(\frac{dy}{dx}\right)$$
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