

고차미분 (Higher Derivatives)

Higher Derivatives

▶ Start

▶ Start

Definition

▶ Start

Definition

$$(f')'$$

▶ Start

Definition

$$(f')' = f''$$

▶ Start

Definition

$(f')' = f''$ the second derivative of f

▶ Start

Definition

$$\frac{d}{dx} (f')' = f'' \text{ the second derivative of } f$$

▶ Start

Definition

$$\frac{d}{dx} \left(\frac{dy}{dx} \right) = (f')' = f'' \text{ the second derivative of } f$$

▶ Start

Definition

$$\begin{aligned}(f')' &= f'' \text{ the second derivative of } f \\ \frac{d}{dx} \left(\frac{dy}{dx} \right) &= \frac{d^2y}{dx^2}\end{aligned}$$

▶ Start

Definition

$$\begin{aligned}(f')' &= f'' \text{ the second derivative of } f \\ \frac{d}{dx} \left(\frac{dy}{dx} \right) &= \frac{d^2y}{dx^2} \text{ (Leibniz notation)}\end{aligned}$$

▶ Start

Definition

$$(f')' = f'' \text{ the secon derivative of } f$$
$$\frac{d}{dx} \left(\frac{dy}{dx} \right) = \frac{d^2y}{dx^2} \text{ (Leibniz notaion)}$$

$$(f'')'$$

▶ Start

Definition

$$(f')' = f'' \text{ the secon derivative of } f$$
$$\frac{d}{dx} \left(\frac{dy}{dx} \right) = \frac{d^2y}{dx^2} \text{ (Leibniz notaion)}$$

$$(f'')' = f'''$$

▶ Start

Definition

$$(f')' = f'' \text{ the secon derivative of } f$$
$$\frac{d}{dx} \left(\frac{dy}{dx} \right) = \frac{d^2y}{dx^2} \text{ (Leibniz notaion)}$$

$$(f'')' = f''' \text{ the derivative of secon derivative of } f$$

▶ Start

Definition

$$(f')' = f'' \text{ the secon derivative of } f$$
$$\frac{d}{dx} \left(\frac{dy}{dx} \right) = \frac{d^2y}{dx^2} \text{ (Leibniz notaion)}$$

$$(f'')' = f''' \text{ the derivative of secon derivative of } f$$
$$\frac{d}{dx}$$

▶ Start

Definition

$$\begin{aligned} (f')' &= f'' \text{ the secon derivative of } f \\ \frac{d}{dx} \left(\frac{dy}{dx} \right) &= \frac{d^2y}{dx^2} \text{ (Leibniz notaion)} \end{aligned}$$

$$\begin{aligned} (f'')' &= f''' \text{ the derivative of secon derivative of } f \\ \frac{d}{dx} \left(\frac{d^2y}{dx^2} \right) & \end{aligned}$$

▶ Start

Definition

$$\begin{aligned} (f')' &= f'' \text{ the secon derivative of } f \\ \frac{d}{dx} \left(\frac{dy}{dx} \right) &= \frac{d^2y}{dx^2} \text{ (Leibniz notaion)} \end{aligned}$$

$$\begin{aligned} (f'')' &= f''' \text{ the derivative of secon derivative of } f \\ \frac{d}{dx} \left(\frac{d^2y}{dx^2} \right) &= \frac{d^3y}{dx^3} \end{aligned}$$

▶ Start

Definition

$$\begin{aligned} (f')' &= f'' \text{ the secon derivative of } f \\ \frac{d}{dx} \left(\frac{dy}{dx} \right) &= \frac{d^2y}{dx^2} \text{ (Leibniz notaion)} \end{aligned}$$

$$\begin{aligned} (f'')' &= f''' \text{ the derivative of secon derivative of } f \\ \frac{d}{dx} \left(\frac{d^2y}{dx^2} \right) &= \frac{d^3y}{dx^3} \text{ (Leibniz notaion)} \end{aligned}$$

▶ Start

Definition

$$(f')' = f'' \text{ the secon derivative of } f$$
$$\frac{d}{dx} \left(\frac{dy}{dx} \right) = \frac{d^2y}{dx^2} \text{ (Leibniz notaion)}$$

$$(f'')' = f''' \text{ the derivative of secon derivative of } f$$
$$\frac{d}{dx} \left(\frac{d^2y}{dx^2} \right) = \frac{d^3y}{dx^3} \text{ (Leibniz notaion)}$$

$$f^{(n)}$$

▶ Start

Definition

$$\begin{aligned} (f')' &= f'' \text{ the secon derivative of } f \\ \frac{d}{dx} \left(\frac{dy}{dx} \right) &= \frac{d^2y}{dx^2} \text{ (Leibniz notaion)} \end{aligned}$$

$$\begin{aligned} (f'')' &= f''' \text{ the derivative of secon derivative of } f \\ \frac{d}{dx} \left(\frac{d^2y}{dx^2} \right) &= \frac{d^3y}{dx^3} \text{ (Leibniz notaion)} \end{aligned}$$

$$f^{(n)} \quad \text{the } n\text{th derivative of } f$$

▶ Start

Definition

$$\begin{aligned} (f')' &= f'' \text{ the secon derivative of } f \\ \frac{d}{dx} \left(\frac{dy}{dx} \right) &= \frac{d^2y}{dx^2} \text{ (Leibniz notaion)} \end{aligned}$$

$$\begin{aligned} (f'')' &= f''' \text{ the derivative of secon derivative of } f \\ \frac{d}{dx} \left(\frac{d^2y}{dx^2} \right) &= \frac{d^3y}{dx^3} \text{ (Leibniz notaion)} \end{aligned}$$

$f^{(n)}$ the nth derivative of f

$y^{(n)}$

▶ Start

Definition

$$\begin{aligned} (f')' &= f'' \text{ the secon derivative of } f \\ \frac{d}{dx} \left(\frac{dy}{dx} \right) &= \frac{d^2y}{dx^2} \text{ (Leibniz notaion)} \end{aligned}$$

$$\begin{aligned} (f'')' &= f''' \text{ the derivative of secon derivative of } f \\ \frac{d}{dx} \left(\frac{d^2y}{dx^2} \right) &= \frac{d^3y}{dx^3} \text{ (Leibniz notaion)} \end{aligned}$$

$f^{(n)}$ the nth derivative of f

$$y^{(n)} = f^{(n)}(x)$$

▶ Start

Definition

$$\begin{aligned} (f')' &= f'' \text{ the secon derivative of } f \\ \frac{d}{dx} \left(\frac{dy}{dx} \right) &= \frac{d^2y}{dx^2} \text{ (Leibniz notaion)} \end{aligned}$$

$$\begin{aligned} (f'')' &= f''' \text{ the derivative of secon derivative of } f \\ \frac{d}{dx} \left(\frac{d^2y}{dx^2} \right) &= \frac{d^3y}{dx^3} \text{ (Leibniz notaion)} \end{aligned}$$

$f^{(n)}$ the nth derivative of f

$$y^{(n)} = f^{(n)}(x) = \frac{d^n y}{dx^n}$$

Definition

$$\begin{aligned} (f')' &= f'' \text{ the secon derivative of } f \\ \frac{d}{dx} \left(\frac{dy}{dx} \right) &= \frac{d^2y}{dx^2} \text{ (Leibniz notaion)} \end{aligned}$$

$$\begin{aligned} (f'')' &= f''' \text{ the derivative of secon derivative of } f \\ \frac{d}{dx} \left(\frac{d^2y}{dx^2} \right) &= \frac{d^3y}{dx^3} \text{ (Leibniz notaion)} \end{aligned}$$

$$\begin{aligned} f^{(n)} &\quad \text{the } n\text{th derivative of } f \\ y^{(n)} &= f^{(n)}(x) = \frac{d^ny}{dx^n} \text{ (Leibniz notaion)} \end{aligned}$$

Definition

$$\begin{aligned} (f')' &= f'' \text{ the secon derivative of } f \\ \frac{d}{dx} \left(\frac{dy}{dx} \right) &= \frac{d^2y}{dx^2} \text{ (Leibniz notaion)} \end{aligned}$$

$$\begin{aligned} (f'')' &= f''' \text{ the derivative of secon derivative of } f \\ \frac{d}{dx} \left(\frac{d^2y}{dx^2} \right) &= \frac{d^3y}{dx^3} \text{ (Leibniz notaion)} \end{aligned}$$

$$\begin{aligned} f^{(n)} &\quad \text{the } n\text{th derivative of } f \\ y^{(n)} &= f^{(n)}(x) = \frac{d^ny}{dx^n} \text{ (Leibniz notaion)} \end{aligned}$$

▶ Home