

# Sitzungsberichte

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mathematisch-naturwissenschaftlichen

Klasse

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Let  $A$  be the area of the square,  $B$  the area of the square,  $C$  the area of the square, and  $D$  the area of the square. The area of the square is  $A + B + C + D$ . The area of the square is  $A + B + C + D$ . The area of the square is  $A + B + C + D$ .

$$A = \frac{1}{2}ab, B = \frac{1}{2}bc, C = \frac{1}{2}cd, D = \frac{1}{2}da$$

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$$A + B + C + D = \frac{1}{2}ab + \frac{1}{2}bc + \frac{1}{2}cd + \frac{1}{2}da = \frac{1}{2}(ab + bc + cd + da)$$

die in (1) an die Stelle von  $\bar{x}$  eingesetzt werden, so ergibt sich die Messwertfunktion  $\bar{x}(t)$  in Abhängigkeit von  $t$ :

$$\bar{x}(t) = \frac{1}{n} \sum_{i=1}^n x_i(t) \quad (2)$$

$$\bar{x}(t) = \frac{1}{n} \sum_{i=1}^n \left( x_i(t_0) + \frac{dx_i}{dt} (t - t_0) + \frac{1}{2} \frac{d^2 x_i}{dt^2} (t - t_0)^2 + \dots \right) \quad (3)$$

Die Messwertfunktion  $\bar{x}(t)$  ist die zeitliche Mittelwertfunktion der Messwerte  $x_i(t)$ . Die Messwertfunktion  $\bar{x}(t)$  ist die zeitliche Mittelwertfunktion der Messwerte  $x_i(t)$ . Die Messwertfunktion  $\bar{x}(t)$  ist die zeitliche Mittelwertfunktion der Messwerte  $x_i(t)$ .

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$$\bar{x}(t) = \frac{1}{n} \sum_{i=1}^n \left( x_i(t_0) + \frac{dx_i}{dt} (t - t_0) + \frac{1}{2} \frac{d^2 x_i}{dt^2} (t - t_0)^2 + \dots \right) \quad (5)$$

$$\bar{x}(t) = \frac{1}{n} \sum_{i=1}^n \left( x_i(t_0) + \frac{dx_i}{dt} (t - t_0) + \frac{1}{2} \frac{d^2 x_i}{dt^2} (t - t_0)^2 + \dots \right) \quad (6)$$

$$\bar{x}(t) = \frac{1}{n} \sum_{i=1}^n \left( x_i(t_0) + \frac{dx_i}{dt} (t - t_0) + \frac{1}{2} \frac{d^2 x_i}{dt^2} (t - t_0)^2 + \dots \right) \quad (7)$$

Sie haben

$$\bar{x}(t) = \frac{1}{n} \sum_{i=1}^n x_i(t) \quad (8)$$

mit der Zeit  $t$  und dem Messwert  $\bar{x}(t)$

$$\bar{x}(t) = \frac{1}{n} \sum_{i=1}^n \left( x_i(t_0) + \frac{dx_i}{dt} (t - t_0) + \frac{1}{2} \frac{d^2 x_i}{dt^2} (t - t_0)^2 + \dots \right) \quad (9)$$

$$\bar{x}(t) = \frac{1}{n} \sum_{i=1}^n \left( x_i(t_0) + \frac{dx_i}{dt} (t - t_0) + \frac{1}{2} \frac{d^2 x_i}{dt^2} (t - t_0)^2 + \dots \right) \quad (10)$$

Wenn

$$\bar{x}(t) = \frac{1}{n} \sum_{i=1}^n \left( x_i(t_0) + \frac{dx_i}{dt} (t - t_0) + \frac{1}{2} \frac{d^2 x_i}{dt^2} (t - t_0)^2 + \dots \right) \quad (11)$$

$$\bar{x}(t) = \frac{1}{n} \sum_{i=1}^n \left( x_i(t_0) + \frac{dx_i}{dt} (t - t_0) + \frac{1}{2} \frac{d^2 x_i}{dt^2} (t - t_0)^2 + \dots \right) \quad (12)$$

