

Table of Contents

Differentiation (Pro edition only) 1

Formula 1

See Also 1

Differentiation (Pro edition only)

Open Table or Figure or Plot with initial data and use Processing → Differentiate menu item.



Formula

To perform differentiation you should specify two columns: x and y. Missing values are ignored.

MagicPlot uses **central difference** formula to compute the derivative:

First and last points ($i=1$ and $i=N$) are computed as follows:

$$y'_i = \frac{1}{2} \left(\frac{y_{i+1} - y_i}{x_{i+1} - x_i} + \frac{y_i - y_{i-1}}{x_i - x_{i-1}} \right), \quad i=2, \dots, N-1$$

$$y'_1 = \frac{y_2 - y_1}{x_2 - x_1}, \quad y'_N = \frac{y_N - y_{N-1}}{x_N - x_{N-1}}$$

See Also

- [Integration](#)

From:

<https://magicplot.com/wiki/> - **MagicPlot Manual**

Permanent link:

<https://magicplot.com/wiki/differentiation?rev=1277574351>

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