$f'(x)$ $f'_x(x,y)$ $f_x(x,y)$ f_x

$\frac{df(x)}{dx}$ $\frac{\partial f(x,y)}{\partial x}$ $f''(t) = \ddot{f}$

2) Вектор.

$$\nabla f(x,y) = \begin{bmatrix} f_x \\ f_y \end{bmatrix}$$

$$\nabla \cdot \nabla f(x,y) = f_{xx} + f_{yy} =$$

$$= \Delta f(x,y)$$

3) Конец разложим

$$f'(x) = \frac{f(x+\Delta x) - f(x)}{\Delta x} + O(\Delta x)$$

разложить вперед

$$f''(x) = \frac{f(x+\Delta x) - 2f(x) + f(x-\Delta x)}{2\Delta x} + O(\Delta x)$$

$$f'(x) = \frac{f(x+\Delta x) - f(x-\Delta x)}{2\Delta x} + O(\Delta x^2)$$

центр. раз.

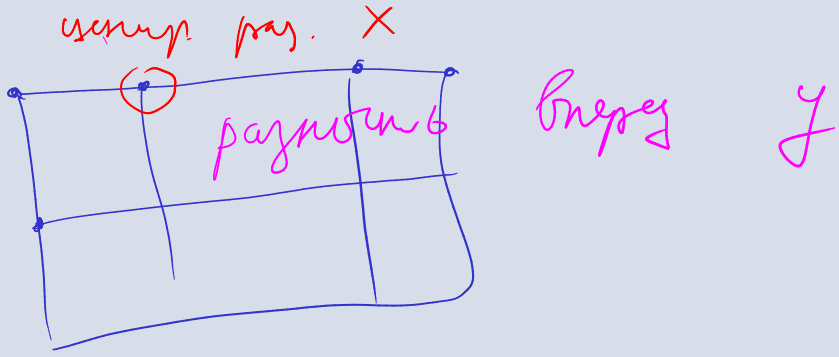
1. Ряд Тейлора

2. Полином

$$f(x) = a_1 x + a_0$$

$$f(x+\Delta x) = a_1 (x+\Delta x) + a_0$$

$$f'(x) = a_1$$


центр. раз. X
разрыв
вперед
Y

$$\mathcal{F}\{f(t)\}(\omega) = g(\omega)$$

$$\mathcal{F}^{-1}\{g(\omega)\}(t) = f(t)$$

$$\mathcal{F}\{f'(t)\} = 2\pi i\omega \boxed{\mathcal{F}\{f(t)\}(\omega)}$$

$$f'(t) = \mathcal{F}^{-1}\{\dots\}$$

$$f'_{\text{komp.}}(\vec{x}) = \lim_{|\vec{x}_2 - \vec{x}_1| \to 0} \frac{f(\vec{x}_2) - f(\vec{x}_1)}{|\vec{x}_2 - \vec{x}_1|}$$