$f(x) = x f \mathbb{R}$

$$f'(x) = 1$$

$f g : \mathbb{R} \to \mathbb{R}$

$f(x) = 0 x \in \mathbb{R} g(x) = 0 x \in \mathbb{R} f(x) \cdot g(x) = 0 x \in \mathbb{R}$
$f(x) \cdot g(x) = 0 x \in \mathbb{R} f(x) = 0 x \in \mathbb{R} g(x) = 0 x \in \mathbb{R}$
$f(x) \cdot g(x) \neq 0 x \in \mathbb{R} f(x) \neq 0 x \in \mathbb{R} g(x) \neq 0 x \in \mathbb{R}$
$f^2(x) = 0 x \in \mathbb{R} f(x) = 0 x \in \mathbb{R}$
$f^2(x) + g^2(x) = 0 x \in \mathbb{R} f(x) = g(x) = 0 x \in \mathbb{R}$

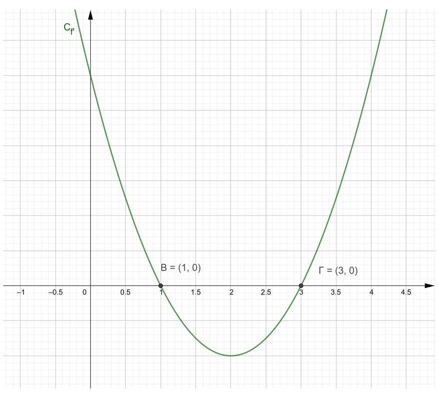
$f x_0$

$$_{x \to x_0} [f(x)]^n = [_{x \to x_0} f(x)]^n$$

$n \in \mathbb{N}^*$
$\mathrm{A}(x_0, f(x_0)) f f''(x) = 0$
$f(x) = \sqrt{x} (0, +\infty) f'(x) = \frac{1}{2\sqrt{x}}$

$f : \mathbb{R} \to \mathbb{R} f f'$

f'



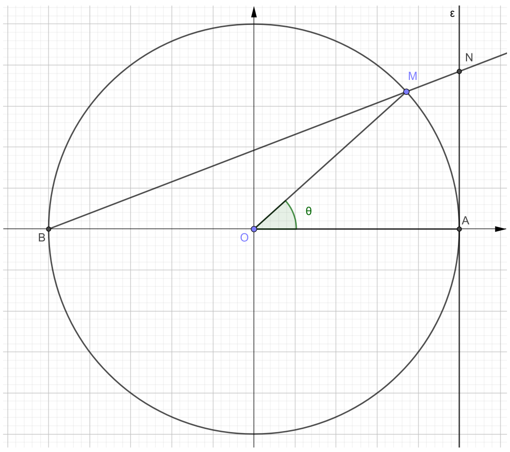
$f f$
$f y' y{-}2$

$f(x) = x^3 - 6x^2 + 9x - 2$

f
$y = -3x + 6 C_f$

$2 f(2021) < f(2020) + f(2022)$

$\mathrm{O}(\varepsilon)x'x\mathrm{A}(1,0)\widehat{\mathrm{AOM}} = \theta\theta \in (-\pi,\pi)\mathrm{MB}(-1,0)\mathrm{BM}(\varepsilon)\mathrm{N}(1,y)$



$y = \frac{2\eta\mu\theta}{1+\sigma\upsilon\nu\theta} = y(\theta)$

$_{\theta\to 0}\ \frac{y(\theta)}{\theta}$

$_{\theta\to\pi^-}\ y(\theta)_{\theta\to\pi^+}\ y(\theta)\theta = \pi + u\theta = u - \pi$

y

$C_f(0, y(0))$

$f : (0, +\infty)$

$$f(x) \geq 0x \geq 1$$

$$\frac{f(x)+e^x}{x} \leq e^x x > 0$$

$fx = 1$

$f\mathrm{A}(1, f(1))y = ex - e$

$x^2 f''(x) + e^x = x^2 f'(x) + xe^x x > 0$

$f(x) = e^x\ xx > 0$

$f\mathrm{A}(1, f(1))C_f x_0 \in (0,1)\xi \in (x_0, 1)f(\xi) + \frac{e^\xi}{\xi} = e$