$F_n = F_{n-1} + F_{n-2}$

Rešenje: $F_n = a \cdot q^n$

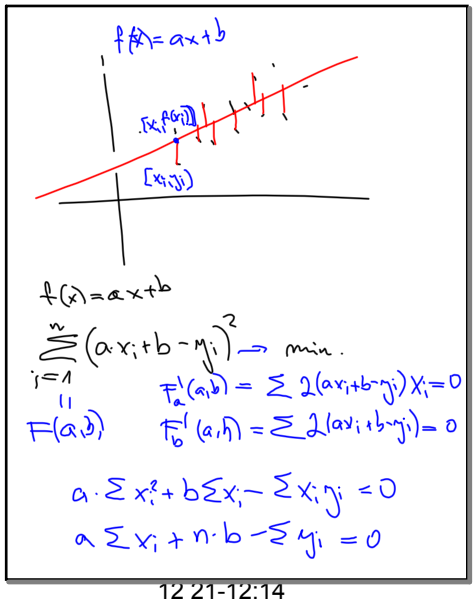
$a \cdot q^n = a \cdot q^{n-1} + a q^{n-2} \quad / : a \cdot q^{n-2}$

$q^2 = q + 1$

$q^2 - q - 1 = 0$

$q_{1,2} = \frac{1 \pm \sqrt{5}}{2}$

12 21-12:11



$f(x) = ax + b$

$\sum_{i=1}^{n} (ax_i + b - y_i)^2 \to \min.$

$F(a,b)$

$F'_a(a,b) = \sum 2(ax_i + b - y_i) x_i = 0$

$F'_b(a,b) = \sum 2(ax_i + b - y_i) = 0$

$a \cdot \sum x_i^2 + b \sum x_i - \sum x_i y_i = 0$

$a \sum x_i + n \cdot b - \sum y_i = 0$

12 21-12:14

$e^x = \sum_{n=0}^{\infty} \frac{x^n}{n!}$

$e = \lim_{n \to \infty} \left(1 + \frac{1}{n}\right)^n$

$(\arcsin x)'$ $\quad y = \arcsin x \iff x = \sin y \iff$

$\frac{dx}{dy} = \cos y \iff$

$\iff \frac{dy}{dx} = \frac{1}{\cos y} = \frac{1}{\cos(\arcsin x)}$

$\cos^2 x + \sin^2 x = 1$ $\iff \frac{dy}{dx} = \frac{1}{\sqrt{1 - \sin^2(\arcsin x)}}$

$\cos x = \sqrt{1 - \sin^2 x}$ $\quad = \frac{1}{\sqrt{1 - x^2}}$

12 21-12:20

$x^2 + xy + y^2 = 1 \qquad y = y(x)$

deriviramo

$2x + y + x \cdot y' + 2y \cdot y' = 0$

$y'(x + 2y) = -2x - y$

$y' = \frac{-2x - y}{x + 2y}$

12 21-12:25

definicija $y = f(x)$ $\quad f'(x) = \frac{dy}{dx}$

$\int \sqrt{1 + f'^2(x)}\, dx = \int \sqrt{1 + \left(\frac{dy}{dx}\right)^2} dx = \int \sqrt{dx^2 + dy^2}$

$x = \varphi(t) \qquad y = \psi(t)$

$\int \sqrt{\varphi'^2(t) + \psi'^2(t)}\, dt$

12 21-12:31