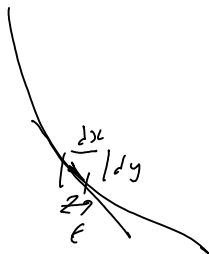


Cosh

September-08-09
8:22 PM

$$F'' = \sqrt{1 + F'^2}$$



$$\cosh x \stackrel{?}{=} \sqrt{1 + \sinh^2 x}$$

$$\sqrt{1 + \sinh^2 x} =$$

$$\sqrt{1 + \frac{1}{4}(e^{2x} - 2 + e^{-2x})}$$

$$= \sqrt{\frac{1}{4}(e^{2x} + 2 + e^{-2x})}$$

$$= \sqrt{\cosh^2 x} = \cosh x \quad \checkmark$$

$f^{(100)}$

$$\text{guz}(x) = \cosh x = \frac{e^x + e^{-x}}{2} = f(x)$$

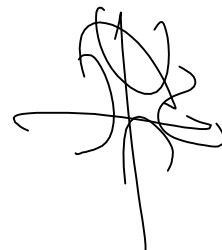
$$\cosh' x = \sinh x$$

$$\sinh x = \frac{e^x - e^{-x}}{2}$$

$$\sinh' x = \cosh x$$

$$\sqrt{1 + F'^2} = \sqrt{1 + \frac{dy^2}{dx^2}} = \sqrt{\frac{dx^2 + dy^2}{dx^2}}$$

$$= \sqrt{dx^2 + dy^2} / dx$$



$$F'' dx = \sqrt{dx^2 + dy^2}$$

$$e^{i\theta} = \cos\theta + i\sin\theta$$

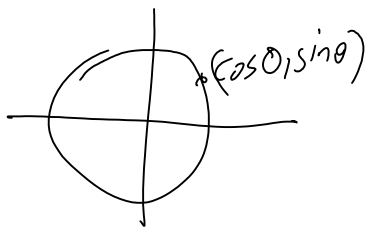
$$e^{-i\theta} = \cos\theta - i\sin\theta$$

$$\frac{e^{i\theta} + e^{-i\theta}}{2} = \cos\theta$$

$$\cos^2\theta + \sin^2\theta = 1$$

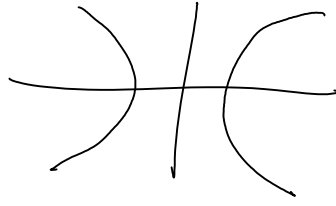
$$\cosh^2 t - \sinh^2 t = 1$$

'' ''



$$\begin{array}{c} \parallel \\ x \end{array} \qquad \begin{array}{c} \parallel \\ y \end{array}$$

$$x^2 - y^2 = 1$$



$$\theta = -it$$

$$e^{i\theta} = e^{i(-it)} = e^t = \cos \theta + i \sin \theta$$

$$= \cos(-it) + i \sin(-it)$$