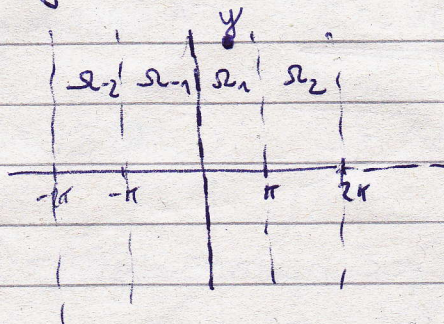


Pr.  $y' \sin x = y \ln y$  ;  $y(\frac{\pi}{2}) = e$

$$\textcircled{1} y' = f(x) = \frac{y \ln y}{\sin x}$$

$$\frac{\partial f}{\partial y} = \frac{\ln y + 1}{\sin x}$$



② Separance

$$\frac{dy}{dx} \sin x = y \ln y \quad / \cdot dx \quad \cancel{\sin x y \ln y}$$

$$\left. \begin{array}{l} \sin x \neq 0 \\ y \neq 0 \\ y > 0 \\ y \neq 1 \end{array} \right\} \int \frac{dy}{y \ln y} = \int \frac{dx}{\sin x}$$

$$\int \frac{dy}{y \ln y} = \int \frac{dx}{\sin x} = \int \frac{dx}{2 \sin \frac{x}{2} \cos \frac{x}{2}} =$$

$$= \int \frac{1}{2} \cdot \frac{\frac{1}{\cos^2 \frac{x}{2}}}{\sin \frac{x}{2} \cos \frac{x}{2} \cos \frac{x}{2}} dx = \int \frac{1/2}{\lg \frac{x}{2}} dx = \ln |\lg \frac{x}{2}| + \ln C$$

$$\left( \ln |\ln y| = \ln \left( \left| \ln \frac{x}{2} \right| \cdot C \right) \right)$$

$$|\log| = C \left| \log \frac{x}{2} \right|, \quad C \in \mathbb{R}^{-1}$$

$$\ln y = C^* \lg \frac{x}{2} \quad ; \quad C^* \in \mathbb{R} \setminus \{0\}$$

$$y = e^{c^* \ln \frac{x}{2}} \quad ; \quad c^* \in \mathbb{R} \setminus \{0\}$$

~~$y=1$ : je reseni bilka!~~

$$\rightarrow 0 \cdot \sin x = 1.0$$

$$0=0 \quad \forall x \in \mathbb{R} \quad \text{není to výjimečné řešení}$$

$$g = e^{\tilde{c} \log \frac{x}{2}} \quad ; \quad \tilde{c} \in \mathbb{R}$$

$$y\left(\frac{\pi}{2}\right) = e: \quad e = e^{\tilde{c} \left(\frac{\pi}{2}\right)}$$

-partikula'mi:  $y = e^{\frac{\lg x}{2}}$

$$(x \in (-\frac{\pi}{2}, \frac{\pi}{2}))$$

$$x \in \left(0, \frac{\pi}{2}\right)$$

$$\Delta q_n(\frac{\Delta}{2}): x \in (-\pi, \pi)$$

$$x \in \langle 0, \pi \rangle$$

