Je Bernoulliova rce ($y' + py = qy^{\alpha}$) ✓

$\alpha = 0$

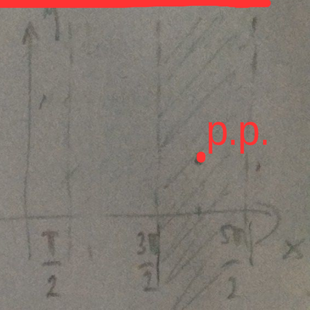
9.) $y' + \underbrace{y \tan x}_{p(x)} = \underbrace{\sin 2x}_{q(x)}$ $y(2\pi) = 1$

$\left(\frac{3\pi}{2}, \frac{5\pi}{2}\right) \times \mathbb{R}$

$f = \sin 2x - y \tan x$ spoj.

$\partial_y f = -\tan x$

$x \neq \frac{\pi}{2} + k\pi$ (*)



$y = uv$

=> $u'v + u\underbrace{(v' + v\tan x)}_{=0} = \sin 2x$ (⌂)

$v \equiv 0$ ale $y = u \cdot v \equiv 0$ NENÍ

$v' + v \tan x = 0$ /:v $v \neq 0$

$\frac{dv}{v} = -\tan x \, dx$

$\int \tan x \, dx = \int \frac{\sin x}{\cos x} dx$ | $\cos x = t$, $-\sin x \, dx = dt$ | $= -\int \frac{1}{t} dt = -\ln|t| dt$

$\ln|v| = +\ln|\cos x| + C_1$ $C_1 = \ln K$, $K > 0$

$|v| = K|\cos x|$

$v = K \cos x$ $K \in \mathbb{R} - \{0\}$

až na zn. ale to zajistí K

(⌂) $u' K \cos x = \sin 2x$ /:K cos x ✓   (*) $\cos x \neq 0$

$du = \frac{1}{K} \frac{2 \sin x \cos x}{\cos x} dx$

$u = -\frac{2}{K} \cos x + C_2$

$y = \left(\underbrace{-\frac{2}{K}\cos x + C_2}_{u}\right) \underbrace{K \cos x}_{v}$

O.R.: $y = -2\cos^2 x + C \cos x$

Cauchy: poč. podm.: $1 = -2 \cdot 1 + C \cdot 1$

$C = 3$

$y = -2\cos^2 x + 3 \cos x$ $x \in \left(\frac{3\pi}{2}, \frac{5\pi}{2}\right)$