Z minula:

$$\sum |a_n + i b_n|$$

$$\sum \sqrt{a_n^2} \le \sum \sqrt{a_n^2 + b_n^2} \le \sum \sqrt{a_n^2} + \sum \sqrt{b_n^2}$$

$$\sum \sqrt{b_n^2} \le \qquad \sum |a_n| + \sum |b_n|$$

$$\sum |a_n + i b_n| \Leftarrow \sum |a_n|\ k \ \ \& \ \ \sum |b_n|\ k$$

$$\sum |a_n|\ k \Leftarrow \sum |a_n + i b_n|\ k$$

$$\sum |b_n|\ k$$

Lepení

$$f(x) = \begin{cases} 3x^2 & x > 0 \\ 0 & x = 0 \\ -3x^2 & x < 0 \end{cases}$$

PF k f?

Hledáme F(x)

- f spojitá na $\mathbb{R}$ $\longrightarrow$ F bude na $\mathbb{R}$
- $$F(x) = \begin{cases} x^3 + c & x \in (0, \infty) \\ -x^3 + d & x \in (-\infty, 0) \end{cases}$$
- Řešíme $x = 0$

$$\lim_{x \to 0-} F(x) = \lim_{x \to 0+} F(x)$$

$$\lim_{x \to 0-} -x^3 + d = \lim_{x \to 0+} x^3 + c$$

$$\boxed{d = c}$$

Závěr

- $$F(x) = \begin{cases} x^3 + c & x > 0 \\ 0 + c & x = 0 \\ -x^3 + c & x < 0 \end{cases}$$

$$f = |\cos x|$$

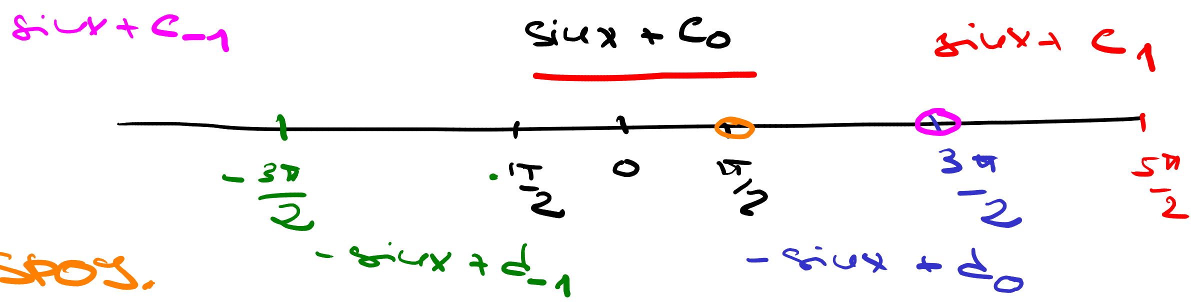
$$f = \begin{cases} \cos x & -\frac{\pi}{2} < x < \frac{\pi}{2} \quad + 2k\pi \\ 0 & \frac{\pi}{2} + k\pi \\ -\cos x & \frac{\pi}{2} < x < \frac{3\pi}{2} \quad + 2k\pi \end{cases}$$

- f spoj. na $\mathbb{R}$

$$x \in \left(-\frac{\pi}{2}, \frac{\pi}{2}\right) + 2k\pi$$

$$F = \begin{cases} \sin x + c_k \,, & \sin x + c_0 + 4k \\ & c_0 + 1 + 2k \quad x = \frac{\pi}{2} + 2k\pi \\ -\sin x + d_k \,; & -\sin x + c_0 + 2 + 4k \end{cases}$$

$$x \in \left(\frac{\pi}{2}, \frac{3\pi}{2}\right) + 2k\pi$$



CHCEME SPOJ.

$\frac{\pi}{2}$:

$$\lim_{x \to \frac{\pi}{2}-} F(x) = \lim_{x \to \frac{\pi}{2}+} F(x)$$

$$\lim_{x \to \frac{\pi}{2}-} \sin x + c_0 = \lim_{x \to \frac{\pi}{2}+} -\sin x + d_0$$

$$1 + c_0 = -1 + d_0$$

$$\boxed{c_0 + 2 = d_0}$$

$\frac{3\pi}{2}$

$$\lim_{x \to \frac{3\pi}{2}-} -\sin x + d_0 = \lim_{x \to \frac{3\pi}{2}+} \sin x + c_1$$

$$+1+d_0 = -1+c_1$$

$$\boxed{+2+d_0 = c_1}$$

$$c_0+2+2 = c_1$$

$$\boxed{c_0+4 = c_1}$$

$$c_n = c_0+4n$$

$$d_n = c_0+2+4n$$

$$\frac{\pi}{2} = c_0+1 \qquad \frac{\pi}{2}+2k\pi : c_0+1+2k$$

$$\frac{3\pi}{2} = c_0+3$$

$$\lim f(x)$$

$$\left(\frac{\pi}{2}+2k\pi\right)^{-}_{+}$$