

429. $\begin{cases} y_1 = \sin x & (\text{sininen}) \\ y_2 = \cos x & (\text{punainen}) \end{cases} \rightarrow \text{nollakeskikat } \frac{\pi}{2} \text{ ja } \frac{3}{2}\pi$

$$\sin x = \cos x$$

$$\cos\left(\frac{\pi}{2} - x\right) = \cos x$$

$$1) \frac{\pi}{2} - x = x + n2\pi$$

$$-2x = -\frac{\pi}{2} + n2\pi$$

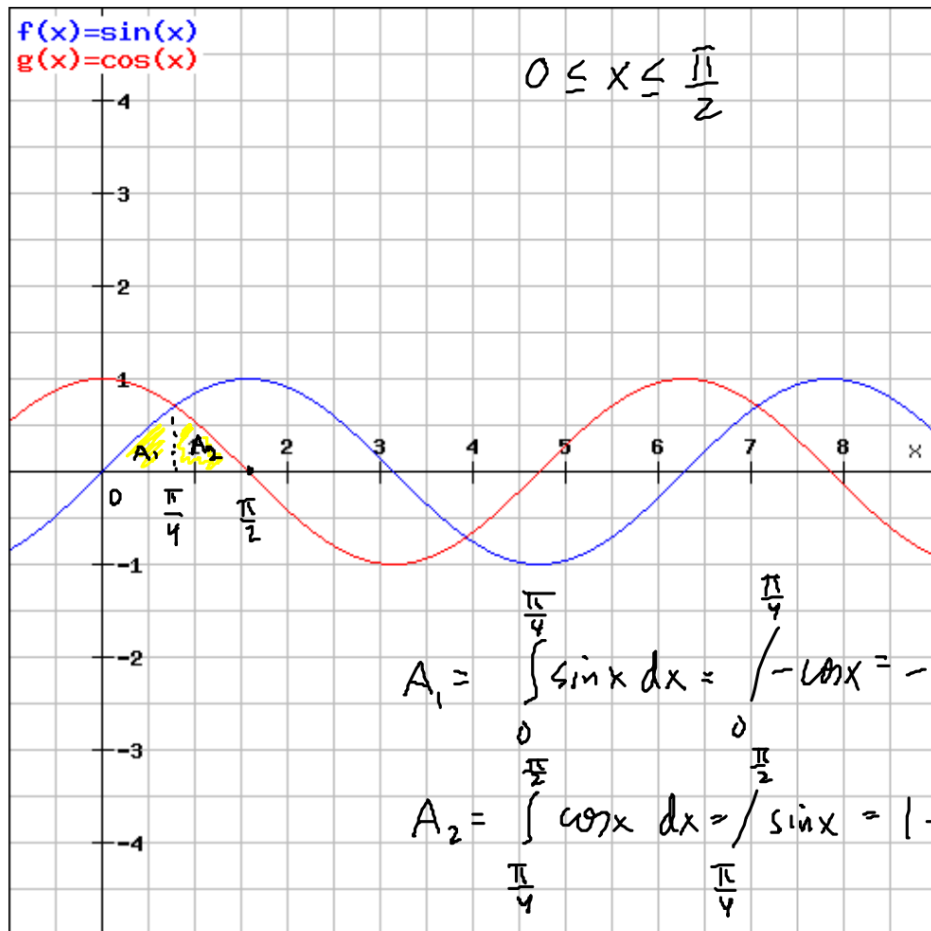
$$x = \frac{\pi}{4} + n\pi$$

tai

$$2) \frac{\pi}{2} - x = -x + n2\pi$$

$$0 = -\frac{\pi}{2} + n2\pi$$

ei ratk.



$$A_1 = \int_0^{\frac{\pi}{4}} \sin x \, dx = \left[-\cos x \right]_0^{\frac{\pi}{4}} = -\frac{1}{\sqrt{2}} + 1$$

$$A_2 = \int_{\frac{\pi}{4}}^{\frac{\pi}{2}} \cos x \, dx = \left[\sin x \right]_{\frac{\pi}{4}}^{\frac{\pi}{2}} = 1 - \frac{1}{\sqrt{2}}$$

$$A_1 + A_2 = 2 - \frac{2}{\sqrt{2}} = \underline{\underline{2 - \sqrt{2}}}$$