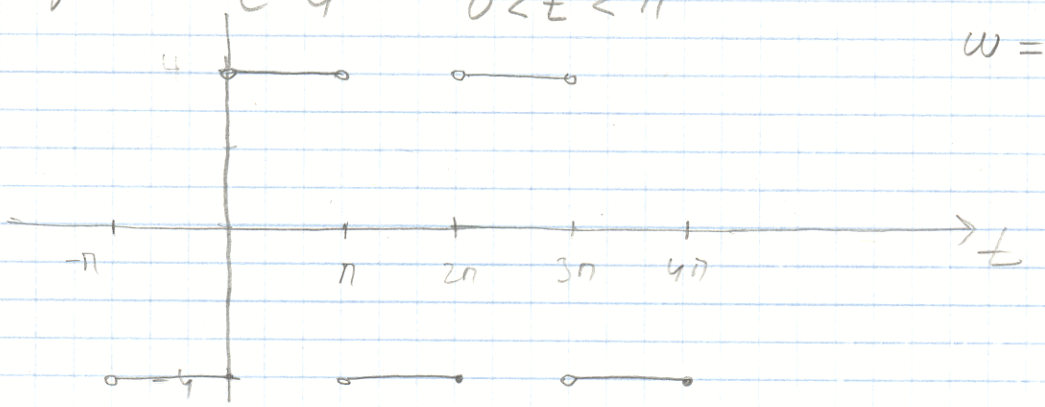
s 717 opg 4

$$f(t) = \begin{cases} -4 & -\pi < t \le 0 \\ 4 & 0 < t < \pi \end{cases}$$

$T = 2\pi$

$\omega = 1$



$f(t)$ - ulige f. fordi $f(-t) = -f(t)$

$a_0 = 0$ $\quad a_n = 0$ for $\forall n$

$$b_n = \frac{2}{2\pi} \cdot 2 \int_0^{\pi} 4 \cdot \sin(nt)\,dt = \frac{8}{\pi}\left[-\frac{\cos(nt)}{n}\right]_0^{\pi} = \frac{8}{\pi n}\left[-\cos(n\pi)+1\right]$$

$$b_n = \frac{8}{\pi n}\left[1-(-1)^n\right]$$

for n-ulige

$$b_n = \frac{16}{n\pi}$$

for n-lige $b_n = 0$

$$f(t) = \frac{16}{\pi}\left(\sin t + \frac{1}{3}\sin 3t + \frac{1}{5}\sin 5t + \frac{1}{7}\sin 7t + \dots\right)$$