(12) Pista $\sum \frac{\operatorname{sen}(nt)}{2^n}$ $\frac{1}{2i}\sum \frac{e^{int}}{2^n} - \frac{1}{2i}\sum \frac{e^{-int}}{2^n}$

$$\operatorname{sen}(nt) = \frac{e^{int} - e^{-int}}{2i}$$

$\sum \frac{e^{inz}}{2^n} = \sum \left(\frac{e^{iz}}{2}\right)^n$ esta serie converge en el conjunto absolutamente

$$\Omega_1 = \left\{ z \in \mathbb{C} ;\ \frac{e^{iz}}{2} \in D(0,1) \right\}$$

$\sum \frac{e^{-inz}}{2^n} = \sum \left(\frac{e^{-iz}}{2}\right)^n$ converge en el conjunto absolutamente.

$$\Omega_2 = \left\{ z \in \mathbb{C} ;\ \frac{e^{-iz}}{2} \in D(0,1) \right\}$$

$$\boxed{\Omega = \Omega_1 \cap \Omega_2}$$