0	5	$u_n(x)$	$T_1(x)$	$S_1(x)$	e^{ix}	e^{inx}	k	**simplement**	$+$
1	6	$u_{n+1}(x)$	$T_2(x)$	$S_2(x)$	e^{2ix}	$e^{i(n+1)x}$	k^2	**uniformément**	$-$
2	7	$u_{n+2}(x)$			e^{3ix}	$e^{i(n+2)x}$	k^3	**vraie**	$/$

Question 1 (récurrence) | Question 1 (suite) | Question 2 | Question 2 (suite)

D'une part $u_0(x) = \boxed{0}$ et d'autre part, pour tout $n \in \mathbf{N}$,	2.0
$u_{n+1}(x) - u_n(x) = (\boxed{e^{i(n+2)x}} \boxed{-} \boxed{e^{i(n+1)x}})/(e^{ix} - 1)$;	2.0
comme $e^{i(n+2)x} - e^{i(n+1)x} = e^{i(n+1)x}(\boxed{e^{ix}}\boxed{-}\boxed{1})$,	2.0
il vient : $u_{n+1}(x) - u_n(x) = \boxed{e^{i(n+1)x}}$. $\quad$ (**1**)	2.0
De (**1**) on tire $u_1(x) = \boxed{e^{ix}}$ et $u_2(x) = e^{ix} + \boxed{e^{2ix}}$	2.0
on en déduit que $(\mathcal{R}_2)$ est **vraie** car d'une part $S_2(x) = \boxed{e^{ix}} \boxed{+} \boxed{e^{2ix}}/2$	2.0
et d'autre part $T_2(x) = \boxed{e^{ix}}/2$ et $u_2(x)/2 = \boxed{e^{ix}}/2 + \boxed{e^{2ix}}/2$.	2.0

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