4 **(i)** Prove the identity $\dfrac{\tan x + 1}{\sin x \tan x + \cos x} \equiv \sin x + \cos x$. [3]

(ii) Hence solve the equation $\dfrac{\tan x + 1}{\sin x \tan x + \cos x} = 3 \sin x - 2 \cos x$ for $0 \leqslant x \leqslant 2\pi$. [3]