[gex84] Applications of Poisson integrals in complex analysis I

(a) Employ the Poisson integrals introduced in [gmd7] to find the function $f(z)$ which is analytic inside the unit circle if it assumes the values $e^{3\imath\theta}$ on the unit circle.
(b) Employ the Poisson integrals introduced in [gmd7] to find the function $g(z)$ which is analytic in the upper half plane if it assumes the values $\cos x + \imath \sin x$ on the real axis.

Solution: