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Poisson equation with the Robin boundary condition

The inhomogeneous Robin/third boundary condition with general coefficient for the Poisson equation on the unit disc is studied in terms of holomorphic functions using Fourier analysis. It is shown that against the usual expectations this problem cannot have a unique solution unless the coefficient of the first order term in the boundary condition is a constant. For the case of general coefficient, it is actually a problem with essential singularity in the domain, but still well-posed under proper assumptions and the unique solution is given explicitly.