

8. Solve the potential equation on a disc

$$r\partial_r(ru_r) + u_{\theta\theta} = 0 \quad 0 < r < c \quad -\pi < \theta < \pi$$

with the boundary condition $u(c, \theta) = |\sin \theta|$. Assume the solution is bounded and make the usual continuity assumptions regarding the solution.

Ans.

