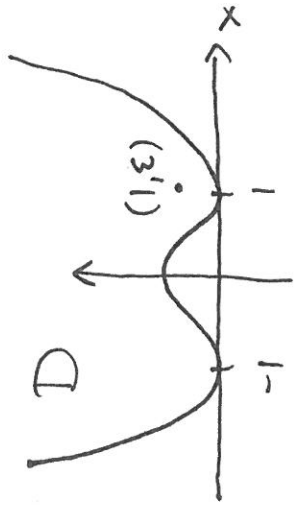


Domain D:

$$y > f(x) := (x^2 - 1)^2$$



Fundamental solution to Δ :

$$\Phi(\bar{x}) = \frac{1}{2\pi} \ln |\bar{x}|$$

Double layer potential on ∂D :

$$u(\bar{x}) = \int_{\partial D} \frac{\partial \Phi}{\partial \bar{n}}(\bar{y} - \bar{x}) \cdot \nu(\bar{y}) \, d\ell(\bar{y})$$

The plots on next page shows the functions

$$x \mapsto \bar{u}(x, f(x)) \cdot \nabla \Phi((x, f(x)) - (1, 1)),$$

for some values of $\varepsilon > 0$.

Note the Dirac delta distribution appearing at $x=1$!

