

MTS 382 LATEKS UYGULAMA 5

$$f(x) = \begin{cases} \frac{1}{q} & x = \frac{p}{q} \\ 0 & x \notin \mathbb{Q} \end{cases} \text{ ise } \int_0^1 f(x) dx = 0 \quad \text{olur} \quad (1)$$

Matematiksel fiziğin 3 Önemli Denklemi (İlk iki denklemde $u = u(x, y, t)$,
Son Denklemde $u = u(x, y)$):

$$\frac{\partial^2 u}{\partial x^2} + \frac{\partial^2 u}{\partial y^2} = c^2 \frac{\partial^2 u}{\partial t^2} \quad (\text{Dalga Denklemi}) \quad (2)$$

$$\frac{\partial^2 u}{\partial x^2} + \frac{\partial^2 u}{\partial y^2} = c^2 \frac{\partial u}{\partial t} \quad (\text{Isı Denklemi}) \quad (3)$$

$$\frac{\partial^2 u}{\partial x^2} + \frac{\partial^2 u}{\partial y^2} = 0 \quad (\text{Laplace'ın Denklemi})$$

$\Delta u = \nabla \cdot (\nabla u) = \frac{\partial^2 u}{\partial x^2} + \frac{\partial^2 u}{\partial y^2}$ (t gözardı ediliyor) olmak üzere:

$$\Delta u = c^2 \frac{\partial^2 u}{\partial t^2} \quad (\text{Dalga Denklemi}) \quad (4)$$

$$\Delta(u + v) = c^2 \frac{\partial u}{\partial t} \quad (\text{Isı Denklemi})$$

$$\Delta(u + v + w) = 0 \quad (\text{Laplace'ın Denklemi}) \quad (5)$$