

# Notes on Math 322: PDE

Harry Luo

Fall 2024

---

## Contents

Notes on Math 322: PDE .....	1
1. Notations .....	2
1.1. Partial Derivatives .....	2

## 1. Notations

The following notations are used in this note:

### 1.1. Partial Derivatives

The partial derivative of a multivariate function  $u(x, t)$  with respect to  $t$  can be represented as:

$$\partial_t u = \frac{\partial u}{\partial t} = u_t \quad [1]$$

For a second derivative,

$$\partial_t^2 u = \frac{\partial^2 u}{\partial x^2} = u_{tt} \quad [2]$$