Notes on Math 322

Harry Luo

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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:

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

For a second derivative,

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