

## Laplace transform of different functions and integral

### Step function

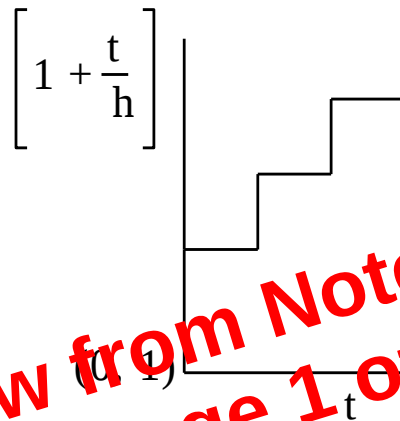
The step function is defined by

$$[t] = 0, \quad 0 \leq t < 1$$

$$= 1, \quad 1 \leq t < 2$$

$$= 2, \quad 2 \leq t < 3$$

$$= 3, \quad 3 \leq t < 4$$



This function sometimes called a Staircase function with unit rise and run.

The Staircase function with an arbitrary positive run  $h$  and with a unit rise belonging at the origin  $t = 0$ , is then represented by

the symbol  $\left[1 + \frac{t}{h}\right]$  or  $1 + \left[\frac{t}{h}\right]$ . The function  $C \left[1 + \frac{t}{h}\right]$

has the rise  $C$  and run  $h$ .

## Laplace transform of Cosine integral



## Laplace transform of Exponential integral

