Table of Laplace Transforms	
$f(t)$ for $t \geq 0$	$\mathcal{L}(f)$
1	$\frac{1}{s}$
e^{at}	$\frac{1}{s-a}$
t^n	$\frac{n!}{s^{n+1}}$ $(n = 0, 1, \ldots)$
$\sin at$	$\frac{a}{s^2+a^2}$
$\cos at$	$\frac{s}{s^2+a^2}$
$\sinh at$	$\frac{a}{s^2-a^2}$
$\cosh at$	$\frac{s}{s^2-a^2}$
$H_a(t)$	$\frac{e^{-as}}{s}$
$f'(t)$	$s\mathcal{L}(f) - f(0)$
$f''(t)$	$s^2\mathcal{L}(f) - sf(0) - f'(0)$

where

$$H_a(t) = \begin{cases} 0 & t \leq a \\ 1 & t > a \end{cases}$$

First shift theorem: If $\mathcal{L}(f(t)) = F(s)$ then

$$\mathcal{L}\left(e^{at} f(t)\right) = F(s-a).$$

Second shift theorem: If $\mathcal{L}(f(t)) = F(s)$ then

$$\mathcal{L}\left(H_a(t) f(t-a)\right) = e^{-as} F(s).$$