UNIVERSIDAD DE CONCEPCION

FACULTAD DE CIENCIAS

FISICAS Y MATEMATICAS

DEPARTAMENTO DE INGENIERIA MATEMATICA

Tabla de Transformada de Laplace. Propiedades

$f(t), g(t), t \ge 0$	$\mathcal{L}[f(t)](s) = F(s), \ s > \alpha, \mathcal{L}[g(t)](s) = G(s), \ s > \beta$
$t^n (n \in \mathbb{Z}_0^+)$	$\frac{n!}{s^{n+1}}, s > 0$
$\operatorname{sen}(bt), b \in \mathbb{R}$	$\frac{b}{s^2 + b^2}, s > 0$
$\cos(bt), b \in \mathbb{R}$	$\frac{s}{s^2 + b^2}, s > 0$
$\operatorname{senh}(bt), b \in \mathbb{R}$	$\frac{b}{s^2 - b^2}, s > b $
$ \cosh(bt), b \in \mathbb{R} $	$\frac{s}{s^2 - b^2} , s > b $
$e^{bt}f(t), b \in \mathbb{R}$	$F(s-b), (s-b) > \alpha$
f'(t)	$s \mathcal{L}[f(t)](s) - f(0^+), s > \alpha$
$t^m f(t) (m \in \mathbb{Z}^+)$	$(-1)^m \frac{d^m}{ds^m} F(s) , s > \alpha$
$\delta(t-a), a \ge 0$	e^{-as} , $s > 0$
$\int_0^t f(t)dt$	$\frac{F(s)}{s}, s > \max\{\alpha, 0\}$
$f(t-c)H(t-c), c \ge 0$	$e^{-cs}F(s), s > \alpha$
$(f * g)(t) = \int_0^t f(t - u) g(u) du$	$F(s)G(s), s > \max\{\alpha, \beta\}$