Laplace Transform Pairs and Properties

$f(t),\ t > 0$	$F(s) = \mathscr{L}\,[f(t)u(t)]$
$\delta(t)$	1
$u(t)$	$\dfrac{1}{s}$
e^{-at}	$\dfrac{1}{s+a}$
t^{n}	$\dfrac{n!}{s^{n+1}}$
$\sin(\omega t)$	$\dfrac{\omega}{s^2 + \omega^2}$
$\cos(\omega t)$	$\dfrac{s}{s^2 + \omega^2}$
$a_1 f_1(t) + a_2 f_2(t)$	$a_1 F_1(s) + a_2 F_2(s)$
$\displaystyle\int_0^t f(\tau)d\tau$	$\dfrac{1}{s}F(s)$
$\dfrac{df(t)}{dt}$	$sF(s) - f(0^-)$
$\dfrac{d^n f(t)}{dt^n}$	$s^n F(s) - \displaystyle\sum_{k=1}^{n} s^{n-k}\,\dfrac{d^{k-1}f(0^-)}{dt^{k-1}}$
$f(t-a)u(t-a)$	$e^{-as}F(s)$
$e^{-at}f(t)$	$F(s+a)$
$f(0^+)$	$\displaystyle\lim_{s\to\infty} s\,F(s)$
$f(\infty)$	$\displaystyle\lim_{s\to 0} s\,F(s)$

NAME — TIME DOMAIN — COMPLEX FREQUENCY DOMAIN

Sources, Resistor, Capacitor, Inductor, Dependent source, Op amp