MATH 242 (Section 3)
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Table of Laplace Transforms

$y(t) = \mathcal{L}^{-1}[Y]$	$Y(s) = \mathcal{L}[y]$	$y(t) = \mathcal{L}^{-1}[Y]$	$Y(s) = \mathcal{L}[y]$
e^{at}	$\frac{1}{s-a}, s > a$	t^n	$\frac{n!}{s^{n+1}}, s > 0$
$\sin(\omega t)$	$\frac{\omega}{s^2+\omega^2}$	$\cos(\omega t)$	$\frac{s}{s^2+\omega^2}$
$e^{at}\sin(\omega t)$	$\frac{\omega}{(s-a)^2+\omega^2}$	$e^{at}\cos(\omega t)$	$\frac{s-a}{(s-a)^2+\omega^2}$
$t\sin(\omega t)$	$\frac{2\omega s}{(s^2+\omega^2)^2}$	$t\cos(\omega t)$	$\frac{s^2-\omega^2}{(s^2+\omega^2)^2}$
$u_a(t)$	$\frac{e^{-as}}{s}, s > 0$	$\delta_a(t)$	e^{-as}
$\frac{dy}{dt}$	$sY(s) - y(0)$	$y(t) + w(t)$	$Y(s) + W(s)$
$\alpha y(t)$	$\alpha Y(s)$	$u_a(t)y(t-a)$	$e^{-as}Y(s)$
$e^{at}y(t)$	$Y(s-a)$		

Equilibrium Analysis for Linear Systems