

## Table of Laplace Transforms

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$f(x)$	$F(s) = \mathcal{L}[f(x)]$
1	$\frac{1}{s}, \quad s > 0$
$e^{rx}$	$\frac{1}{s-r}, \quad s > r$
$\cos \beta x$	$\frac{s}{s^2 + \beta^2}, \quad s > 0$
$\sin \beta x$	$\frac{\beta}{s^2 + \beta^2}, \quad s > 0$
$x^n, \quad n = 1, 2, \dots$	$\frac{n!}{s^{n+1}}, \quad s > 0$
$x^n e^{rx}, \quad n = 1, 2, \dots$	$\frac{n!}{(s-r)^{n+1}}, \quad s > r$
$x \cos \beta x$	$\frac{s^2 - \beta^2}{(s^2 + \beta^2)^2}, \quad s > 0$
$x \sin \beta x$	$\frac{2\beta s}{(s^2 + \beta^2)^2}, \quad s > 0$
$e^{rx} \cos \beta x$	$\frac{s-r}{(s-r)^2 + \beta^2}, \quad s > r$
$e^{rx} \sin \beta x$	$\frac{\beta}{(s-r)^2 + \beta^2}, \quad s > r$