

Table of Laplace Transforms

$$f(t) \qquad \mathcal{L}[f(t)] = F(s)$$

$$1 \qquad \frac{1}{s} \qquad (1)$$

$$\delta(t) \qquad 1 \qquad (2)$$

$$e^{at} \qquad \frac{1}{s-a} \qquad (3)$$

$$f'(t) \qquad sF(s) - f(0) \qquad (4)$$

$$f^n(t) \qquad s^n F(s) - s^{(n-1)}f(0) - \dots - f^{(n-1)}(0) \qquad (5)$$

$$\int_0^t f(x)g(t-x)dx \qquad F(s)G(s) \qquad (6)$$

$$t^n \ (n = 0, 1, 2, \dots) \qquad \frac{n!}{s^{n+1}} \qquad (7)$$

$$\sin kt \qquad \frac{k}{s^2 + k^2} \qquad (8)$$

$$\cos kt \qquad \frac{s}{s^2 + k^2} \qquad (9)$$