| $f(t) = \mathcal{L}^{-1}\{F(s)\}$ | $F(s) = \mathcal{L}\{f(t)\}$ | Notes |
|---|---|---|
| 1. $1$ | $\frac{1}{s}, \quad s > 0$ | Sec. 6.1; Ex. 4 |
| 2. $e^{at}$ | $\frac{1}{s-a}, \quad s > a$ | Sec. 6.1; Ex. 5 |
| 3. $t^n$, $n$ a positive integer | $\frac{n!}{s^{n+1}}, \quad s > 0$ | Sec. 6.1; Prob. 24 |
| 4. $t^p, \quad p > -1$ | $\frac{\Gamma(p+1)}{s^{p+1}}, \quad s > 0$ | Sec. 6.1; Prob. 24 |
| 5. $\sin(at)$ | $\frac{a}{s^2+a^2}, \quad s > 0$ | Sec. 6.1; Ex. 7 |
| 6. $\cos(at)$ | $\frac{s}{s^2+a^2}, \quad s > 0$ | Sec. 6.1; Prob. 5 |
| 7. $\sinh(at)$ | $\frac{a}{s^2-a^2}, \quad s > \lvert a\rvert$ | Sec. 6.1; Prob. 7 |
| 8. $\cosh(at)$ | $\frac{s}{s^2-a^2}, \quad s > \lvert a\rvert$ | Sec. 6.1; Prob. 6 |
| 9. $e^{at}\sin(bt)$ | $\frac{b}{(s-a)^2+b^2}, \quad s > a$ | Sec. 6.1; Prob. 10 |
| 10. $e^{at}\cos(bt)$ | $\frac{s-a}{(s-a)^2+b^2}, \quad s > a$ | Sec. 6.1; Prob. 11 |
| 11. $t^n e^{at}$, $n$ a positive integer | $\frac{n!}{(s-a)^{n+1}}, \quad s > a$ | Sec. 6.1; Prob. 14 |
| 12. $u_c(t) = \begin{cases} 0 & t < c \\ 1 & t \geq c \end{cases}$ | $\frac{e^{-cs}}{s}, \quad s > 0$ | Sec. 6.3 |
| 13. $u_c(t)\, f(t-c)$ | $e^{-cs}F(s)$ | Sec. 6.3 |
| 14. $e^{ct} f(t)$ | $F(s-c)$ | Sec. 6.3 |
| 15. $f(ct)$ | $\frac{1}{c}F\left(\frac{s}{c}\right), \quad c > 0$ | Sec. 6.3; Prob. 17 |
| 16. $(f * g)(t) = \int_0^t f(t-\tau)g(\tau)\,d\tau$ | $F(s)G(s)$ | Sec. 6.6 |
| 17. $\delta(t-c)$ | $e^{-cs}$ | Sec. 6.5 |
| 18. $f^{(n)}(t)$ | $s^n F(s) - s^{n-1}f(0) - \cdots - f^{(n-1)}(0)$ | Sec. 6.2; Cor. 6.2. |
| 19. $(-t)^n f(t)$ | $F^{(n)}(s)$ | Sec. 6.2; Prob. 21 |

扫描全能王 创建