

$$\text{Denote } F(p) = L[f(t)](p)$$

$$L[f(at)](p) = \frac{1}{a} F\left(\frac{p}{a}\right), \quad a \in \mathbf{R}_+, \quad \text{Rep} > aa_0$$

$$L[e^{-at}f(t)](p) = F(p+a), \quad \text{Rep}(p+a) > a_0$$

$$L[f^{(n)}(t)](p) = p^n F(p) - p^{n-1}f(0_+) - p^{n-2}f'(0_+) - \dots - p^0 f^{(n-1)}(0_+),$$

$$L\left[\int_0^t f(u)du\right](p) = \frac{F(p)}{p}, \quad \text{Rep} > a_0$$

$$L[t^n f(t)](p) = (-1)^n F^{(n)}(p), \quad \text{Rep} > a_0$$

$$L\left[\frac{f(t)}{t}\right](p) = \int_p^\infty F(y)dy, \quad \text{Rep} > a_0$$

$$L[u(t-a)f(t-a)](p) = e^{-ap}F(p), \quad \text{Rep} > a_0, \quad a \in \mathbf{R}_+$$

$$L[(f * g)(t)](p) = L[f(t)](p)L[g(t)](p)$$

$$L[f(t)](p) = \frac{1}{1 - e^{-pT}} \int_0^T e^{-pt} f(t) dt, \quad \text{dacă } f \text{ este funcție periodică de perioadă } T$$

$$L[u(t)] = \frac{1}{p} \quad \left(L[1] = \frac{1}{p}\right)$$

$$L[t] = \frac{1}{p^2}$$

$$L[t^n] = \frac{n!}{p^{n+1}}, \quad n \in \mathbf{N}^*$$

$$L[t^\alpha] = \frac{\Gamma(\alpha+1)}{s^{\alpha+1}}, \quad \text{Re } \alpha > -1$$

$$L[e^{-at}] = \frac{1}{p+a},$$

$$L[\sin \omega t] = \frac{\omega}{p^2 + \omega^2}$$

$$L[\cos \omega t] = \frac{p}{p^2 + \omega^2}$$

$$L\left[\int_{-\infty}^t \frac{\cos u}{u} du\right] = \frac{1}{p} \ln \frac{1}{\sqrt{p^2 + 1}}$$

$$(f * g)(t) = \int_0^\infty f(t-u)g(u)du = \int_0^t f(t-u)g(u)du$$