The following table of Laplace transforms may be used without proof.

$$f(t) \hspace{1cm} F(s) = \mathcal{L}\{f(t)\}$$

$$t^{n} \hspace{1cm} (n = 0, 1, 2, \dots) \hspace{1cm} \leftrightarrow \hspace{1cm} \frac{n!}{s^{n+1}}$$

$$e^{at} \hspace{1cm} \leftrightarrow \hspace{1cm} \frac{1}{s - a}$$

$$\sin at \hspace{1cm} \leftrightarrow \hspace{1cm} \frac{a}{s^{2} + a^{2}}$$

$$\cos at \hspace{1cm} \leftrightarrow \hspace{1cm} \frac{s}{s^{2} + a^{2}}$$

$$h(t - a) \hspace{1cm} \leftrightarrow \hspace{1cm} \frac{e^{-as}}{s}$$

$$\delta(t - a) \hspace{1cm} \leftrightarrow \hspace{1cm} e^{-as}$$

$$e^{at}f(t) \hspace{1cm} \leftrightarrow \hspace{1cm} F(s - a)$$

$$f(t)h(t - a) \hspace{1cm} \leftrightarrow \hspace{1cm} e^{-as}\mathcal{L}\{f(t + a)\}$$

$$f(t - a)h(t - a) \hspace{1cm} \leftrightarrow \hspace{1cm} e^{-as}F(s)$$

$$p - \text{periodic } f(t) \hspace{1cm} \to \hspace{1cm} \frac{1}{1 - e^{-ps}} \int_{0}^{p} e^{-st}f(t) \, dt$$

$$\int_{0}^{t} f(u)g(t - u) \, du \hspace{1cm} \leftarrow \hspace{1cm} F(s)G(s)$$

$$f'(t) \hspace{1cm} \to \hspace{1cm} sF(s) - f(0)$$

$$f''(t) \hspace{1cm} \to \hspace{1cm} s^{2}F(s) - sf(0) - f'(0)$$