Transformada de Laplace.

$$af(t)+bg(t) \rightarrow L \rightarrow aF(s)+bG(s)$$

$$f'''(t) \rightarrow L \rightarrow s^3\cdot F(s)-s^2\cdot f(0)-s\cdot f'(0)-f''(0)$$
$$f''(t) \rightarrow L \rightarrow s^2\cdot F(s)-s\cdot f(0)-f'(0)$$
$$f'(t) \rightarrow L \rightarrow s\cdot F(s)-f(0)$$

$$\delta(t) \rightarrow L \rightarrow 1 \qquad e^{at}\cdot\delta(t)=\delta(t) \rightarrow L \rightarrow 1$$

$$\cos(\omega t) \rightarrow L \rightarrow \frac{s}{s^2+\omega^2} \qquad e^{at}\cdot\cos(\omega t) \rightarrow L \rightarrow \frac{(s-a)}{(s-a)^2+\omega^2}$$

$$\operatorname{sen}(\omega t) \rightarrow L \rightarrow \frac{\omega}{s^2+\omega^2} \qquad e^{at}\cdot\operatorname{sen}(\omega t) \rightarrow L \rightarrow \frac{\omega}{(s-a)^2+\omega^2}$$

$$1=u(t) \rightarrow L \rightarrow \frac{1}{s} \qquad e^{at}=e^{at}\cdot u(t) \rightarrow L \rightarrow \frac{1}{(s-a)}$$

$$t=t\cdot u(t) \rightarrow L \rightarrow \frac{1}{s^2} \qquad e^{at}\cdot t \rightarrow L \rightarrow \frac{1}{(s-a)^2}$$

$$t^2 \rightarrow L \rightarrow \frac{2\cdot 1}{s^3} \qquad e^{at}\cdot t^2 \rightarrow L \rightarrow \frac{2\cdot 1}{(s-a)^3}$$

$$t^3 \rightarrow L \rightarrow \frac{3\cdot 2\cdot 1}{s^4} \qquad e^{at}\cdot t^3 \rightarrow L \rightarrow \frac{3\cdot 2\cdot 1}{(s-a)^4}$$

Trigonométricas.

$$\operatorname{sen}(a+b)=\operatorname{sen}(a)\cos(b)+\cos(a)\operatorname{sen}(b) \qquad \operatorname{sen}(x)=\frac{e^{ix}-e^{-ix}}{2i}$$

$$\cos(a+b)=\cos(a)\cos(b)-\operatorname{sen}(a)\operatorname{sen}(b) \qquad \cos(x)=\frac{e^{ix}+e^{-ix}}{2}$$

$$\operatorname{sen}(a)\operatorname{sen}(b)=\frac{1}{2}\left[\cos(a-b)-\cos(a+b)\right] \qquad e^{ix}=\cos(x)+i\operatorname{sen}(x)$$

$$\cos(a)\cos(b)=\frac{1}{2}\left[\cos(a-b)+\cos(a+b)\right] \qquad \operatorname{sen}^2(a)=\frac{1}{2}\left[1-\cos(2a)\right]$$

$$\operatorname{sen}(a)\cos(b)=\frac{1}{2}\left[\operatorname{sen}(a-b)+\operatorname{sen}(a+b)\right] \qquad \cos^2(a)=\frac{1}{2}\left[1+\cos(2a)\right]$$

$$\cos(-a)=\cos(a) \qquad \operatorname{sen}(-a)=-\operatorname{sen}(a) \qquad \operatorname{sen}^2(a)+\cos^2(a)=1$$