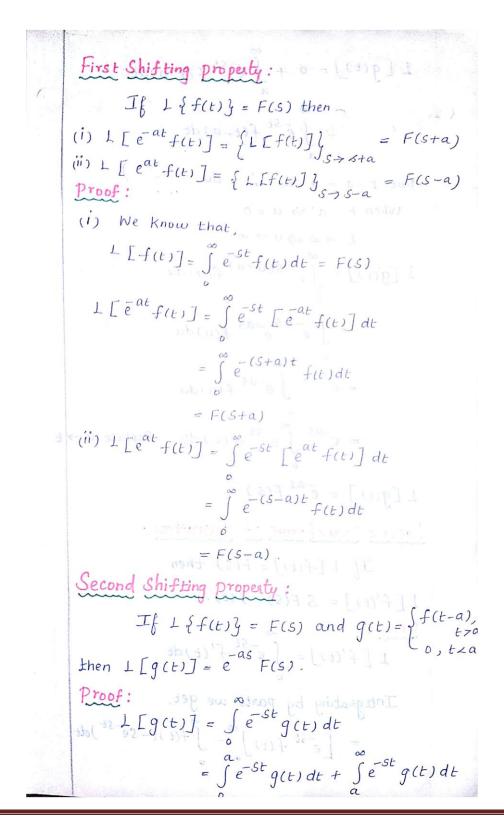




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$$L[g(t)] = 0 + \int_{a}^{\infty} e^{-St} f(t-a)dt$$

$$= \int_{a}^{\infty} e^{-St} f(t-a)dt$$

$$= \int_{a}^{\infty} e^{-St} f(t-a)dt$$

$$= \int_{a}^{\infty} e^{-St} f(t-a)dt$$

$$= \int_{a}^{\infty} e^{-St} = \int_{a}^{\infty} e^{-St} f(u)du$$

$$= \int_{a}^{\infty} e^{-St} f(u)dt$$

$$= \int_{a}^{\infty} e^{-St} f(u)du$$

$$= \int$$





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Let 
$$f(x) = e^x f(x) - e^x f(x) + s \int_0^x e^{-st} f(t) dt$$

$$= SF(s) - f(x) - f(x) + s \int_0^x e^{-st} f(t) dt$$

Let  $f''(t) = s^x F(s) - s f(x) - f'(x)$ 

Let  $f''(t) = s^x F(s) - s f(x) - f'(x)$ 

We know that,

$$f'(t) = s \int_0^x f(t) - f(x) - f'(x) + f''(x) + f''(x$$





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$$\Rightarrow L \left[ \int_{S}^{L} f(t) dt \right] = \int_{S}^{L} L \left[ f(t) \right] \left\{ \begin{array}{c} \int_{S}^{L} f(t) dt \\ \end{array} \right] = \int_{S}^{L} L \left[ \int_{S}^{L} f(t) dt \\ \end{array} \right] = \int_{S}^{L} L \left[ \int_{S}^{L} f(t) dt \\ \end{array}$$

Derivative of Laplace Transform (or) Laplace transform of  $L \left[ \int_{S}^{L} f(t) \right] = L \left[ \int_{S}^{L} f(t) \right] = \int_{S}^{L} f(t) dt \\ L \left[ \int_{S}^{L} f(t) \right] = \int_{S}^{L} f(t) dt \\ L \left[ \int_{S}^{L} f(t) \right] = \int_{S}^{L} \int_{S}^{L} f(t) dt \\ L \left[ \int_{S}^{L} f(t) \right] = \int_{S}^{L} \int_{S}^{L} f(t) dt \\ = \int_{S}^{L} \int_{S}^{L} f(t) dt$ 





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