Laplace transforms

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$$f(x) \longmapsto \int_0^\infty f(x) e^{-tx}\,dx =: \mathcal{L}(f)$$

$$1 \longmapsto \int_0^\infty e^{-tx}\,dx = \left[-\frac{1}{t}e^{-tx}\right]_0^\infty = \frac{1}{t}$$

$$x \longmapsto \int_0^\infty x e^{-tx}\,dx = +\int_0^\infty \frac{1}{t} e^{-tx}\,dx = \frac{1}{t^2}$$

$$\text{In general, } \frac{d}{dt}\mathcal{L}(f) = \mathcal{L}(-xf)$$

(seems irrelevant...)