- Take the FT of a reversed signal

$$\mathcal{F}f^{-}(s) = \int_{-\infty}^{\infty} f(-t)\, e^{-2\pi i s t}\, dt$$

$$q = -t \qquad dq = -dt$$

$$= \int_{\infty}^{-\infty} f(q)\, e^{-2\pi i s(-q)} (-dq)$$

$$= \int_{-\infty}^{\infty} f(q)\, e^{2\pi i s q}\, dq$$

rename dummy

$$= \int_{-\infty}^{\infty} f(t)\, e^{2\pi i s t}\, dt$$

$$= \mathcal{F}^{-1} f(s)$$

or removing the explicit statement of the independent variable

$$\mathcal{F} f^{-} = \mathcal{F}^{-1} f$$

- Because this holds for $f(t)$ and tempered distributions can be obtained from $f$ by

$T_f$ and $\lim_{a \to 0} T_{f_a}$ it hold for distributions

$$\mathcal{F} T^{-} = \mathcal{F}^{-1} T \checkmark$$

[see Osgood p82-85 & 179-182]