


Tabelle

	$f(t)$ (Original)	Paired function $F(w)$
1.	$\sigma(t-a) - \sigma(t-b) =$ $= \begin{cases} 1, & a \leq t \leq b \\ 0, & \text{sonst} \end{cases}$ $a < b$	$i \frac{e^{-ibw} - e^{-iaw}}{w}$
2	$\sigma(t+a) - \sigma(t-a) =$ $= \begin{cases} 1, & t \leq a \\ 0, & \text{sonst} \end{cases}$	$\frac{2 \sin(aw)}{w}$
3	$\sigma(t+a) - \sigma(t) =$ $= \begin{cases} 1, & -a \leq t \leq 0 \\ 0, & \text{sonst} \end{cases}$	$i \frac{1 - e^{iaw}}{w}$
4	$\sigma(t) - \sigma(t-a) =$ $= \begin{cases} 1, & 0 \leq t \leq a \\ 0, & \text{sonst} \end{cases}$	$i \frac{e^{-iaw} - 1}{w}$
5	$\begin{cases} a - t , & t \leq a \\ 0, & \text{sonst} \end{cases}$ 	$\frac{2 [1 - \cos(wa)]}{w^2}$
6.	$\frac{1}{a^2 + t^2}$	$\frac{\pi}{a} e^{-a w }$
7	$\frac{t}{a^2 + t^2}$	$i\pi e^{-a w } \quad w < 0$ $0 \quad w = 0$ $-i\pi e^{-a w } \quad w > 0$

	$e^{-a t }$	$\frac{2a}{a^2 + \omega^2}$
9	$e^{-at} \sigma(t)$	$\frac{1}{a + i\omega}$
10	$t e^{-at} \sigma(t)$	$\frac{1}{(a + i\omega)^2}$
11	e^{-at^2}	$\sqrt{\frac{\pi}{a}} e^{-\frac{\omega^2}{4a}}$
12	$\frac{\sin(at)}{t}$	$\pi, \quad \omega < a$ $\frac{\pi}{2}, \quad \omega = a$ $0, \quad \omega > a$
13	$e^{-at} \sin(bt) \sigma(t)$	$\frac{b}{(a + i\omega)^2 + b^2}$
14	$e^{-at} \cos(bt) \sigma(t)$	$\frac{i\omega}{(a + i\omega)^2 + b^2}$
15	$\delta(t)$ Dirac-Stoß	1
16	$\delta(t + a)$	$e^{ia\omega}$
17	$\delta(t - a)$	$e^{-ia\omega}$
18	e^{iat}	$2\pi \delta(\omega - a)$
19	e^{-iat}	$2\pi \delta(\omega + a)$

	$\cos(at)$	$\pi [\delta(\omega+a) + \delta(\omega-a)]$
21	$\sin(at)$	$i\pi [\delta(\omega+a) - \delta(\omega-a)]$
22	$\delta(t+a) + \delta(t-a)$	$2\cos(a\omega)$
23	$\delta(t+a) - \delta(t-a)$	$2i\sin(a\omega)$