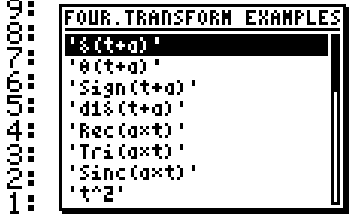
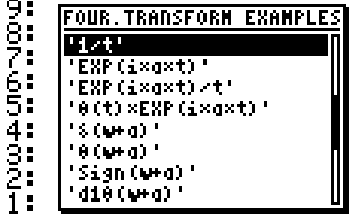


# FOURTRF

<p>Ftrex: Fourier transform examples</p>		
<p>t-&gt;w: Fourier transform for piece wise functions (21s)</p> <p>second example (12s)</p>	$\frac{\left\{ \frac{t}{a^2} + \frac{1}{a} - \frac{-t}{a^2} + \frac{1}{a} \right\}}{a \cdot w^2} \cdot \frac{(-a \ 0 \ a)}{-((\cos(w \cdot a) - 1) \cdot 2)}$	$\frac{a \cdot (i \cdot \cos(w \cdot T) - 1) \cdot 2}{w}$
<p>t-&gt;w: Fourier transform (8s)</p> <p>θ=Heaviside Unitstep</p> <p>δ=Dirac Delta</p>	$\frac{\omega \cdot \pi \cdot \delta(\omega) - i \cdot e^{-\frac{1}{\omega \cdot a}}}{\omega}$	$\frac{d1\delta(t+a)}{w \cdot e^{-\frac{1}{\omega \cdot a}} \cdot i}$
<p>t-&gt;w: Fourier transform (5-10s)</p> <p>Rec: rectangular pulse</p> <p>Tri: triangular pulse</p> <p>Sinc: SIN(t)/t</p>	$\frac{\text{Sinc}\left(\frac{w}{2 \cdot a \cdot \pi}\right)}{a^2}$	$\frac{a \cdot \text{Rec}\left(\frac{w}{2 \cdot a \cdot \pi}\right)}{a^2}$
<p>t-&gt;w: Fourier transform (10s)</p> <p>NRsimp: non rigorous simplify(2.5s)</p>	$\frac{w^2 \cdot \ln(\text{Sign}(w \cdot i))}{2}$	$\frac{\pi \cdot  a }{ w  \cdot  a  \cdot a^2}$
<p>ω-&gt;t: Fourier back transform (10s)</p>	$\frac{i \cdot t \cdot a + \delta(t)}{2 \cdot t \cdot \pi \cdot e^{-\frac{1}{2 \cdot t \cdot a}}}$	$\frac{d1\theta(a+w)}{i \cdot t \cdot \theta(-(t-a)) \cdot 2 \cdot \pi}$
<p>ω-&gt;t: Fourier back transform (10s)</p>	$\frac{\text{Sign}(a+w)}{i \cdot t \cdot a}$	$\frac{e^{-i \cdot a \cdot w}}{2 \cdot \pi}$
<p>ω-&gt;t: Fourier back transform of rational functions (27s)</p> <p>Σ-&gt;Lin: linearise terms</p> <p>next example (15s)</p>	$\frac{i \cdot \text{Sign}(t) \cdot e^{-\frac{1}{2 \cdot i \cdot t}} + 3 \cdot i \cdot e^{-\frac{1}{2 \cdot i \cdot t}} \cdot \text{Sign}(t)}{5 \cdot e^{-\frac{1}{2 \cdot i \cdot t}}}$	$\frac{2}{(w-5)^3}$

<p><math>\omega \rightarrow t</math>: Fourier back transform of rational functions (40s)</p> <p>next example (30s)</p>		
<p>Fsimp: simplify terms with special functions (2s)</p>		
<p>iExpfrac: expand fraction with i (1s)</p>		
<p>Fab-&gt; set Fourier parameters a=0, b=1 modern physics (1s)</p>		
<p>Frules: picture with rules</p>		
<p>Ftable: table of values for Sinc(t/2)</p>		
<p>Fxi: values form a to b step s</p>		
<p>Fx0: value at x0</p>		
<p>Grapht: graph of function 4*Sinc(t/2)</p>		
<p>HelpFOURTRF: help</p>		
<p>HelpFOURTRF: help</p>		
<p>HelpFOURTRF: help</p>		