#Jenny

Finally I get this ebook, thanks for all these I can get now!

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Cool! I'am really happy

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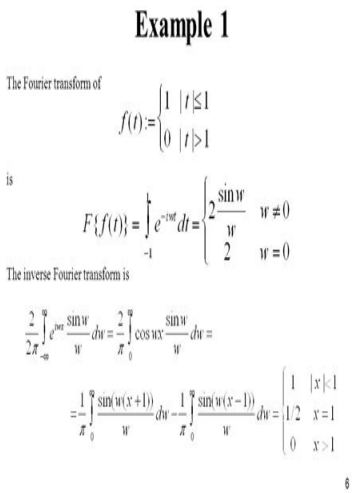
My friends are so mad that they do not know how I have all the high quality ebook which they do not!

#Diego Butler

so many fake sites. this is the first one which worked! Many thanks



Example 1

The Fourier transform of

$$f(t):=\begin{cases}1 & |t|\le 1\\ 0 & |t|>1\end{cases}$$

is

$$F\{f(t)\}=\int_{-1}^{1} e^{-iwt}dt=\begin{cases}2\dfrac{\sin w}{w} & w\neq 0\\ 2 & w=0\end{cases}$$

The inverse Fourier transform is

$$\frac{2}{2\pi}\int_{-\infty}^{\infty} e^{iwx}\frac{\sin w}{w}dw=\frac{2}{\pi}\int_{0}^{\infty}\cos wx\frac{\sin w}{w}dw=$$

$$=\frac{1}{\pi}\int_{0}^{\infty}\frac{\sin(w(x+1))}{w}dw-\frac{1}{\pi}\int_{0}^{\infty}\frac{\sin(w(x-1))}{w}dw=\begin{cases}1 & |x|<1\\ 1/2 & x=1\\ 0 & x>1\end{cases}$$

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