

6 a) Find the Fourier transform
of $f(x) = e^{-|x|}$.

b) Find the inverse Fourier transform
of $\frac{1}{1+\lambda^2}$.

c) Find the Fourier transform of
 $g(x) = \frac{1}{1+x^2}$.

d) Find the Fourier transform
of $\frac{x}{(1+x^2)^2}$.