Quiz Number 2

Closed Book; Closed Notes; Time Given=10 minutes (Sep. 20, 2005)

“I certify that I have neither received nor given unpermitted aid on this examination and that I have reported all such incidents observed by me in which unpermitted aid is given.”

Name ____________________  Student ID ________________  Signature ____________________

Question 1: [5 points] Find the Fourier Transform of the function shown below. Try to express your answer in terms of sinc functions:

![Fourier Transform Graph]

Question 2: [5 points] Consider a linear time-invariant (LTI) system with impulse response \( h(t) \) whose Fourier transform is \( H(f) \). If the input \( x(t) \) to the LTI system is:

\[
x(t) = \sin 2\pi f_1 t + \cos 4\pi f_2 t
\]

Find the output \( y(t) \) of the LTI system.