1.3

(a) Since the function is a even hence will be 2 times the integral from 0 to

Therefore = . where =

(b) Generally a Fourier series is for a periodic signal with time period

T but as then the signal becomes aperiodic and hence it then becomes a Fourier Transform . A Fourier Series is a infinite summation whereas a Fourier transform is an integral with limits from to .

(c) The Gibbs phenomenon explains the fact that Fourier sums overshoot at a jump discontinuity and that this overshoot does not die out as more terms are added to the sum. And we can verify this from the graph by observing that by increasing N the overshoot at point of discontinuity does not die out and rest continuous part converges to either 0 or 1.